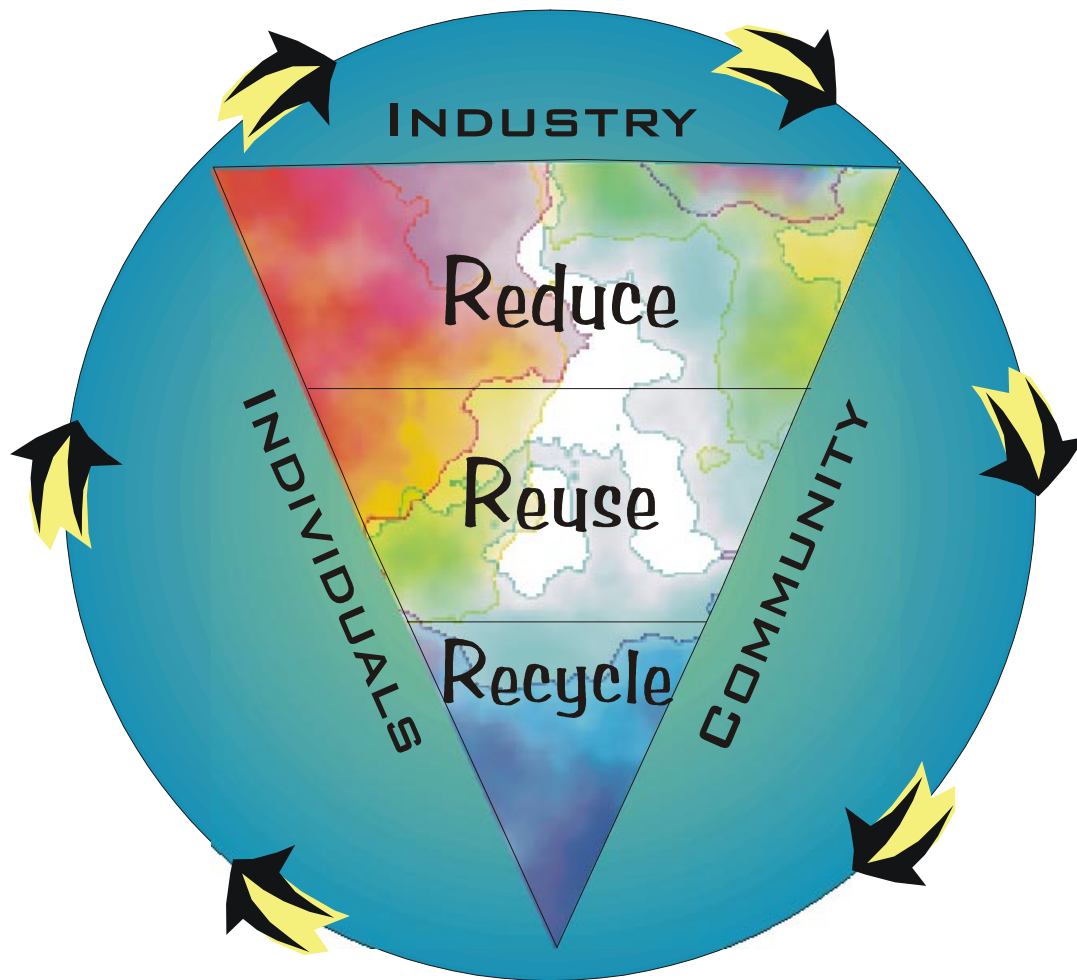


1999 Pollution Prevention Annual Report

Submitted by:

Michigan Department of Environmental Quality
Environmental Assistance Division



Preventing Pollution is the Best Solution

John Engler, Governor
Russell J. Harding, Director
www.deq.state.mi.us
800-662-9278



Introduction

The Michigan Department of Environmental Quality (DEQ) administers the pollution prevention assistance and services programs pursuant to Parts 143 and 145 of Public Act 451, the Natural Resources and Environmental Protection Act (NREPA). This legislation, which was originally authorized in 1987, and most recently amended under Act No. 289, Public Acts of 1998, charges the DEQ with responsibility for:

- incorporating pollution prevention goals within DEQ's regulatory and permit programs;
- informing and educating to encourage reductions in the generation of environmental wastes; and
- providing technical and financial assistance to small businesses and institutions to facilitate in-plant pollution prevention.

The DEQ's Environmental Assistance Division (EAD) pollution prevention programs carry out the legislative requirements of Parts 143 and 145, and the division works in partnership with businesses, institutions, local government, trade associations, universities, DEQ staff, and state government to fulfill this responsibility.

The legislation requires that DEQ publish and submit an annual report to the legislature and governor detailing the efforts the department has undertaken during the previous fiscal year. The report reviews the state's progress in pollution prevention and summarizes program accomplishments. It also provides an opportunity to acknowledge DEQ's partners in pollution prevention and to outline initiatives anticipated for the next fiscal year.

This report summarizes the DEQ's major pollution prevention activities in fiscal year 1999 (October 1, 1998 through September 30, 1999). More detailed information is available on many of these programs through published reports and on the EAD web site (www.deq.state.mi.us/ead). The EAD welcomes comments on the report and encourages feedback on the performance of its programs.

www.deq.state.mi.us/ead/pub/p2/99p2rept.pdf



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Act 451 Legislative Report Requirement

The Natural Resources and Environmental Protection Act, 1994 P.A. 451, as amended, Sections 324, 14301 et seq. and 324.14501 et seq., identifies activities to be undertaken by the DEQ to advance pollution prevention by business, government, and institutional generators of waste. This report to the legislature provides a summary of projects and activities implemented by the Environmental Assistance Division of the DEQ to meet these requirements.

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1999 Annual Pollution Prevention Report

Year in Review

Picture the owner of a small farm exchanging a mercury dairy manometer for a digital model; or, an auto supplier substantially reducing its use of solvents in the manufacture of plastic parts. These are just two of the many recent pollution prevention accomplishments of Michigan's businesses and institutions. They exemplify a major target of the Michigan Department of Environmental Quality (DEQ), to promote pollution prevention through education and information, assistance, and incentives. During Fiscal Year 1999, the Environmental Assistance Division (EAD) in the DEQ enhanced existing programs and expanded outreach to new business sectors. The EAD staff completed plans on new and expanded pollution prevention programs in preparation for programs that will be funded under the Clean Michigan Initiative, an environmental bond issue that includes \$20 million for pollution prevention. Among the primary pollution prevention accomplishments for 1999:

- The DEQ broadened its sector partnerships. It entered into a pollution prevention alliance with the Department of Defense to further environmental stewardship at Department of Defense facilities in Michigan.
- The EAD initiated a project with Macomb County Public Health Department to establish a pollution prevention initiative with marinas and boat owners in the Lake St. Clair area.
- Michigan's major auto companies, DaimlerChrysler, Ford, and General Motors, joined with the DEQ to announce the new Michigan Auto Project, renewing their commitment to be leaders in reducing pollution generated from vehicle manufacture and assembly.
- Over 300 Michigan facilities made public commitments to pollution prevention as part of the department's partnership programs, an increase of over sixty participants from the previous fiscal year. Participating facilities range from furniture manufacturers to golf courses, and include the manufacturing, commercial, and services industries.
- The DEQ completed plans on the expansion of the Retired Engineer Technical Assistance Program (RETAP) and the establishment of the Small Business Pollution Prevention Loan Program. Both programs will be funded under the Clean Michigan Initiative. The DEQ will implement these programs upon appropriation for RETAP and final approval of the administrative rules for the loan program. The stakeholder process used in developing these two initiatives was very successful, and these programs are going forward with strong consensus. The two programs will increase the capacity of the DEQ to provide technical and financial assistance to promote pollution prevention in Michigan.

- EAD led continuing efforts to fulfill the recommendations under the Michigan Mercury Pollution Prevention Task Force Recommendations. During National Pollution Prevention Week for 1999, employees from the DEQ and Department of Community Health exchanged over 640 mercury thermometers for digital replacements under the “Catch the Fever” program.
- There was strong progress in the DEQ-Local Health and Environmental Department partnership, including completion of 50 percent of the partnership work plan objectives. Local health and environmental department staff attended DEQ-sponsored pollution prevention training and participated in workshops designed to improve coordination between DEQ staff and local environmental staff.
- The members of the Michigan Pulp and Paper Pollution Prevention Project (P5) exceeded their 1998 short-term pollution prevention goals. Among the accomplishments were reductions in 42.5 tons of methanol, 155 tons of volatile organic compounds, and 33.5 tons of chlorine.
- EAD promoted direct access to DEQ programs and environmental assistance through its Environmental Assistance Center and web site. The Environmental Assistance Center, which is a toll-free number that provides information on the DEQ, handled over 40,000 calls this year. The EAD’s web sites were accessed 317,524 times.
- In fiscal year 1999, over 900 people attended EAD-sponsored P2 workshops held throughout the state. In addition, the EAD incorporated pollution prevention information into its other environmental workshops, attended by another 1,300 people. The EAD coordinated exhibits at 47 environmental events, promoting pollution prevention programs and distributing materials.

With the help of Michigan’s businesses, institutions and stakeholders, it is apparent that the state’s pollution prevention programs are having a positive effect. The latest figures on chemical releases under the federal Toxic Chemical Release Inventory (TRI) program indicate a 16 percent decrease in chemical releases from 1995 to 1997. This decrease is occurring during production increases accompanying an economic boom period, and is a good measure that pollution prevention is becoming a standard operational practice at many Michigan facilities.

Moving Ahead in Fiscal Year 2000

- During fiscal year 2000 (October 1, 1999- September 30,1999) the DEQ will focus on strengthening partnerships, enhancing technical assistance services, developing regional pollution prevention initiatives, and implementing Clean Michigan Initiative pollution prevention programs. The DEQ will undertake a significant effort to implement the new Small Business Pollution Prevention Loan program, which allows businesses of 100 employees or less to receive loans of up to \$100,000 at an interest rate of five percent or less. Loans must be used to fund projects that eliminate or reduce waste through pollution prevention.
- The Retired Engineer Technical Assistance Program (RETAP) will expand to provide 100 waste assessments to businesses or institutions of 500 employees or less. RETAP will also develop case study materials and collect information on the RETAP recommendations implemented.
- The DEQ will initiate a new pollution prevention partnership, the Metal Finishing Pollution Prevention Initiative (MFP2I). The initiative will bring together the Michigan metal finishing industry and its stakeholders to strengthen pollution prevention within this industry.
- The Technical Assistance Providers Network (TAPN) will focus on developing an interactive network to increase information sharing among technical assistance providers. TAPN will also link its members to Great Lakes regional activities.
- There will be enhanced efforts to promote pollution prevention in the agricultural and turfgrass industries. In agriculture, the DEQ will focus on incentives to encourage the farm industry to implement pollution prevention and other good environmental practices. The Turfgrass Stewardship program will add three new training modules covering waste management, equipment washing, and golf course design.

There will also be a number of regional pollution prevention initiatives:

- A field staff person will be placed at the DEQ Marquette district office to offer pollution prevention assistance in the Upper Peninsula. This person will also work with stakeholder groups to develop a Lake Superior Pollution Prevention strategy that addresses the unique environmental issues of this region of the state.
- The DEQ will develop guidelines and begin implementation of a program that will provide matching grants to public and private sector organizations that undertake activities that result in measurable reductions in the generation of waste. The grants, which are funded under the Clean Michigan Initiative, will be targeted to regions of the state with environmentally sensitive natural resources, such as the critical waters of Lakes Superior and St. Clair.
- Clean Michigan Initiative funds will improve public access to household hazardous waste collection programs. The expansion will accompany the development of a public awareness campaign on the hazards associated with household waste and impacts on the environment.
- The EAD will continue to provide ready access, technical assistance, publications, and workshops to Michigan businesses, institutions, and citizens on understanding and meeting environmental responsibilities, including waste reduction and pollution prevention approaches.

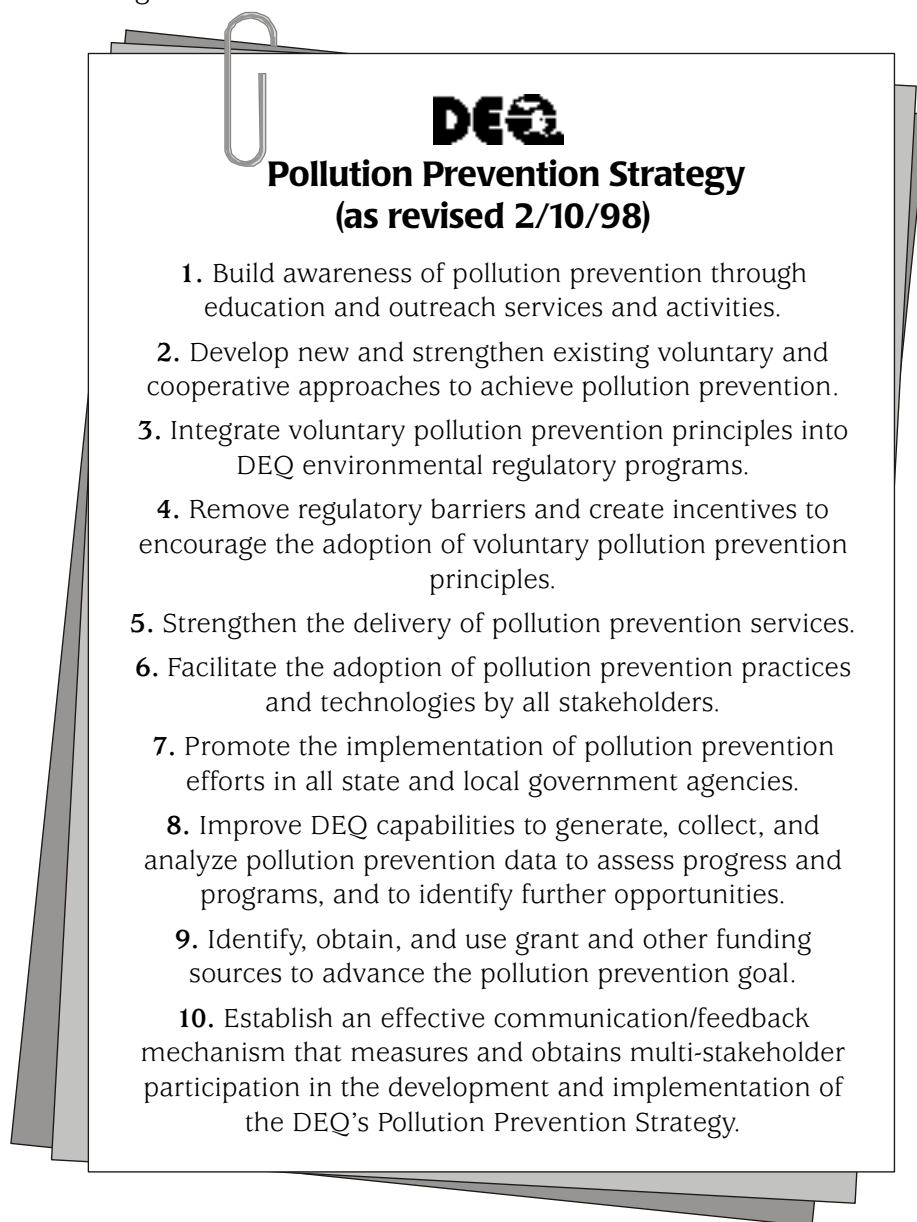
What is pollution prevention?

Pollution prevention eliminates or minimizes the generation of waste at the source and uses environmentally sound on-site and off-site recycling where it is not possible to eliminate the generation of waste. Pollution prevention is distinguished from other emission reduction activities such as alternative waste treatment, release, or disposal technologies.

Pollution Prevention Strategy

In February 1996, DEQ adopted a Pollution Prevention Strategy to guide its efforts in promoting voluntary pollution prevention throughout Michigan. The department updated the Strategy in February of 1998 to reflect its pollution prevention accomplishments and to incorporate changes in program priorities. The Strategy provides a five-year plan to bring information on available and cost effective waste reduction techniques to all potential sources of pollution including service, commercial, and industrial businesses; governmental and institutional organizations; trade and business associations; agriculture; municipalities; and households.

The Strategy will be revised again in the year 2000 to reflect amendments to Parts 143 and 145 of the Natural Resources and Environmental Protection Act 1994 PA 451 (Public Act 289 of 1998) and the Clean Michigan Initiative.



Below is a table identifying the relationship of DEQ's Pollution Prevention Strategy to EAD fiscal year 1999 programs and initiatives. The table shows that many of DEQ's programs meet more than one of these objectives.

Relationship of P2 Strategy Objectives to EAD P2 Program Initiatives

P2 Objectives	Build Awareness Through Education and Outreach	Develop Voluntary and Incentive Approaches	Integrate P2 into Regulatory Programs	Remove Barriers and Create Incentives	Strengthen Delivery of Services	Facilitate P2 Practices and Technologies	Promote P2 in State and Local Govt Agencies	Generate Collect and Analyze P2 Data	Identify, Obtain, and Use Grants and other Funding Sources	Establish Communication and Feedback Mechanism for Strategy
P2 Programs			*				*			
Regulatory Integration P2 Work	*						*			
P2 Data								*		
Community Right to Know	*							*		
LAC	*									
Calendar & Bulletin	*									
Promotional & Events	*					*				
Field Staff	*	*	*	*	*		*			
Material Exchanges	*					*				
Recycling Initiatives	*	*				*				
REIAP					*	*				
Small Business Loan Program	*	*		*		*			*	
Technical Assistance						*		*		
Agricultural P2 Project	*	*		*		*			*	*
C1 Program		*	*	*	*					
EQD Alliance	*	*		*	*	*				

P2 Objectives	Build Awareness Through Outreach	Develop Voluntary and Cooperative Approaches	Integrate P2 into Regulatory Programs	Remove Barriers and Create Incentives	Strengthen Delivery of Services	Facilitate P2 Practices and Technologies	Promote P2 in State and Local Govt Agencies	Generate, Collect, and Analyze P2 Data	Identify, Obtain, and Fair Grants and other Funding Sources	Establish Communication and Feedback Mechanisms for Strategy
P2 Programs										
Green Lights Local Health Dept. Partnership	•	*				•	•	•	•	•
Mercury Reduction Initiative	•	*			•	*	*			
Michigan Auto Project	•	*		*	•	•				*
MBP3	•	*				•				•
Michigan Great Printers Project	•	*		*		•				*
P5		•		*		•				•
Turf Grass P2 Program	•	*				•				
TAPN	•				*	•			•	•

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Regulatory Integration of Pollution Prevention

The DEQ regulatory integration program focuses on using the permitting, inspection, and enforcement programs to encourage source reduction and recycling. It seeks to avoid cross media transfers of waste by integrating pollution prevention into the operation of environmental regulatory programs. Through their daily contacts with businesses, industries, and municipalities, the DEQ permitting, compliance, and enforcement staff are in the best position of all agency staff to promote pollution prevention concepts on a widespread basis.

The DEQ Integration Implementation Strategy was formally endorsed by Director Russell Harding in February 1997. The goal of the Strategy is to further integrate and institutionalize pollution prevention into the DEQ regulatory policies, programs, and practices. By the end of fiscal year 1999, approximately 90 percent of the goals and objectives of the Strategy were complete.

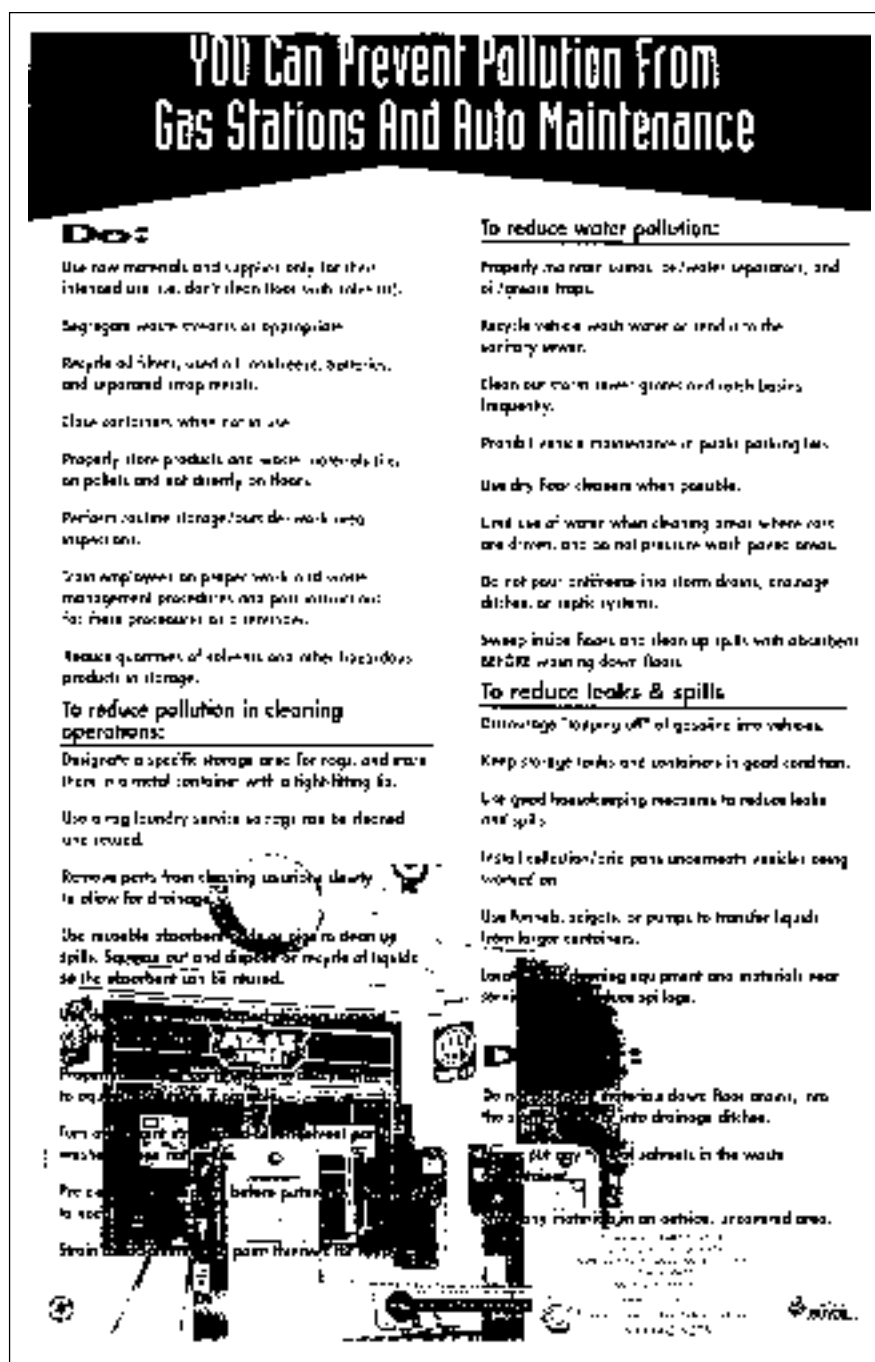
The DEQ has established a field staff unit, which is assigned the responsibility of facilitating regulatory integration within the department's district offices. The field staff serve as a resource for and advocate of pollution prevention. In fiscal year 1999, EAD expanded its field staff services to five full-time staff located in the Detroit, Plainwell, Saginaw Bay, Jackson, and Cadillac district offices. The field staff organized P2 training seminars for district staff, obtained useful P2 informational materials for regulatory staff to distribute, accompanied regulatory staff on compliance inspections to promote P2 and assistance programs, and worked with regulatory staff to include P2 informational materials with license renewal mailings.

In spring 1999, EAD offered four, two-day P2 technical training sessions for regulatory staff. Over 100 staff attended and increased their P2 awareness so that they could better recognize and suggest P2 options to the facilities they typically visit while performing their job duties. Herman Miller Chair Plant, Holland; General Motors Saginaw Malleable Iron Foundry, Saginaw; DaimlerChrysler Warren Truck, Warren; and General Motors Pontiac East Plant, Pontiac, graciously allowed the trainees to walk through their plant and identify potential waste reduction opportunities as a part of the training.

During National Pollution Prevention Week, DEQ staff, Hank Switzer, Charlie Bauer, and Dale DeKraker, were recognized for their pollution prevention integration achievements when they received the second annual DEQ Pollution Prevention Integration Award. To provide information on pollution prevention to all department staff, the EAD produces an electronic newsletter, *P2 Review*. *P2 Review* provides summaries of regulatory integration projects and information on worthwhile pollution prevention resources. EAD staff provide assistance to other DEQ divisions incorporating pollution prevention in Supplemental Environmental Projects (SEP's). Most noteworthy, was a mercury pollution prevention program included in a settlement with a Northern Michigan wastewater treatment plant, facilitated by field staff from the Cadillac district office and the Lansing Mercury P2 program specialist staff.

In fiscal year 2000, the department will build upon the Integration Strategy achievements and focus activities on providing regulatory staff with tools that provide the regulatory community with information on pollution prevention opportunities.

EAD field staff person, Maggie Fields, worked with staff of the Storage Tank Division in the DEQ to distribute this P2 poster to service stations in the area.



Regulatory Integration of P2

www.deq.state.mi.us/ead/p2sect/strategy/regintp2.html

P2 Revue

www.deq.state.mi.us/ead/p2sect/p2revue

Toxic Chemical Release Inventory (TRI) Data: How it Relates to Pollution Prevention

The Superfund Amendment and Reauthorization Act (SARA Title III) requires industrial and federal facilities to report the environmental releases and off-site transfers of more than 650 listed toxic chemicals. Facilities also report their waste management and source reduction activities under the Pollution Prevention Act (PPA) of 1990. This information can be used as an indicator of the progress of pollution prevention in the state. Decreases in releases and transfers of TRI chemicals may indicate successful pollution prevention activities.

Michigan facilities have reduced releases of TRI chemicals over the past three years. Facilities report on-site releases, both controlled and accidental, to air, water, land, and underground injection wells, and off-site releases for disposal. Report year 1997 release data shows a 7.8 percent reduction compared to 1996 and a 16.1 percent reduction compared to 1995. Transfers off-site for further waste management saw a slight decline from report year 1995 to 1996 and then an increase in 1997. Transfers for further waste management include recycling, energy recovery, and treatment. The figures below show the quantities in pounds per year of TRI chemicals released or transferred in Michigan for report years 1995 through 1997.

Toxic Chemical Release Inventory Data State of Michigan Report Years 1995-1997			
	1995 (lbs./year)	1996 (lbs./year)	1997(lbs./year)
Total Releases	100,569,247	91,440,730	84,344,038
Total Transfers	211,602,264	207,338,101	223,788,110

Source: 1997 State of Michigan Toxic Chemical Release Inventory Staff Analysis

Waste Management and Source Reduction

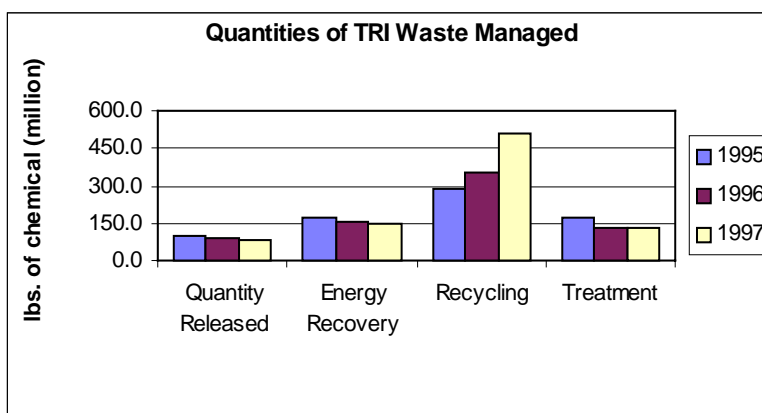
There is evidence that pollution prevention efforts have had an impact in Michigan, both in reducing the amount of toxic chemicals being released to the environment and in the way toxic chemicals are managed. Facilities continue to show a shift in how they manage toxic chemicals by preferentially using recycling and energy recovery over the less preferential waste management practice of treatment. For report year 1997, recycling accounted for 58.7 percent of the total waste managed, on- and off-site, compared to 39.6 percent for 1995 and 48.4 percent for 1996. The total waste managed includes quantities released, recycled, used for energy recovery, and treated. Changes in waste management activities from 1995 to 1997 can be seen in the table below. Each waste management activity is represented as a percentage of the total waste managed, or total production-related waste (TPRW).

Waste Management Activity as Percent of TPRW—RY 1995-1997

Waste Management Activity	Percent of Total Production-Related Waste		
	1995	1996	1997
Released	13	13	9
Recycling	40	48	59
Energy Recovery	23	21	17
Treatment	23	17	14

Source: 1997 State of Michigan Toxic Chemical Release Inventory Staff Analysis

The following graph shows the amounts of waste managed by Michigan facilities through recycling, energy recovery, and treatment activities as well as quantity released over the last three reporting years.



Source: 1997 State of Michigan Toxic Chemical Release Inventory Staff Analysis

Note: The large increase in recycling can be attributed to one facility that first reported in 1996. This facility reported 77.4 million pounds of material.

The SARA Title III Program is currently assessing TRI data for reporting year 1998. This information will be available from EAD in December 1999.

www.deq.state.mi.us/ead/sara

Materials Accounting Report Summation

On July 1, 1999 the DEQ submitted a one-time report on the "Pollution Prevention Impacts and Costs of Materials Accounting and Toxics Use Reporting Programs of Other States and the Federal Government." Materials accounting is an approximate balancing of the quantities of toxic chemicals entering and leaving a facility, while toxics use reporting refers to the amounts of toxic chemicals imported, produced, processed, or otherwise used at a facility. At the time the report was submitted, only the states of Massachusetts and New Jersey had legislated toxic materials accounting and toxics use reporting programs.

Michigan has a toxic chemical use reporting program under Part 31 of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, known as the Annual Wastewater Reporting (AWR) program. Under the AWR program, facilities that have wastewater discharges must annually report on the use and discharge of chemicals on the Critical Materials Register (CMR). During the writing of this report, the DEQ was proposing amended rules for this program to focus on chemicals of most concern and streamline the reporting process.

A key finding of the report was that Michigan had achieved greater reductions in TRI releases from 1988 to 1997 in comparison to the national average. Massachusetts and New Jersey had higher levels of reductions in comparison to other states over the same period. These results indicate the full benefits of toxic chemical use reporting and support the DEQ's decision to revise the AWR rules and implement a focused, streamlined, AWR program.

State	Reduction in TRI Releases 1988-1997
Massachusetts	81 %
New Jersey	72 %
Michigan	49 %
National Average	43 %

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OUTREACH SERVICES

Community Right to Know

For thirteen years, the DEQ's Community Right-to-Know (CRTK) program has served the public by providing information about hazardous chemicals in their communities. The CRTK program was established through Executive Order to meet certain requirements in the federal Emergency Planning and Community Right-to-Know Act (EPCRA) passed by Congress in 1986. The federal law established a comprehensive framework for local chemical emergency planning and put strong emphasis on the public's right to know about hazardous chemicals in their communities. The program works closely with the Michigan Department of State Police, Emergency Management Division, which is responsible for ensuring that local governments have plans in place to respond to chemical emergencies.



Throughout the year, the CRTK program has worked with stakeholders to ensure citizens have access to information about the quantities of hazardous chemicals stored, used, and released within the state. The program publishes an annual Toxic Chemical Release Inventory (TRI) data summary and staff analysis for this purpose. These publications are based on information the DEQ receives from Michigan facilities that manufacture, process, or otherwise use one of more than 650 toxic chemicals and chemical compounds listed in Section 313 of EPCRA of 1986. These reports provide the public with information on the amounts of these listed chemicals generated by Michigan businesses and institutions. The reports also provide information on industry's efforts to prevent the generation of waste at the source and reduce direct releases to the environment through other methods, as described in the federal Pollution Prevention Act (PPA) of 1990. (The PPA [Section 6607 (b)] expanded TRI and requires facilities to report information on source reduction and recycling activities, including techniques which were used for identifying source reduction opportunities.) The TRI data summary and staff analysis are the only environmental reports that contain information on the release, transfer, and import of toxic chemicals in our communities.

Next year, the CRTK program will participate in the DEQ facility profile project that links environmental databases and allows the public to access information on the release and transfer of toxic chemicals within their community. This resource, along with TRI data, will be available to the public both electronically over the Internet and in paper format.

www.deq.state.mi.us/ead/sara/

Community Environmental Awareness Project (CEAP)

In fiscal year 1999, EAD implemented the Community Environmental Awareness Project (CEAP), in partnership with the automobile manufacturing industry. Under this project, environmental information on a major industrial operation was made available to the community. The pilot site for this project was the DaimlerChrysler Sterling Heights Assembly Plant. This information was presented in a manner that would be useful to and understood by the average citizen, providing background information and context for the information. Following completion of the initial CEAP profile, a kiosk computer station was located in Sterling Heights City Hall, by which citizens could access this information electronically. Special community right-to-know appropriations funded the kiosk in Sterling Heights.



www.deq.state.mi.us/ead/ceap/group

DEQ Calendar and EAD Bulletin

The *DEQ Calendar* contains information on environmental issues such as permit decisions, meetings, and public hearings. The *DEQ Calendar* also includes information on environmental conferences, workshops, and training programs. It is produced and distributed biweekly to about 3,500 interested organizations and individuals.

www.deq.state.mi.us/cal/

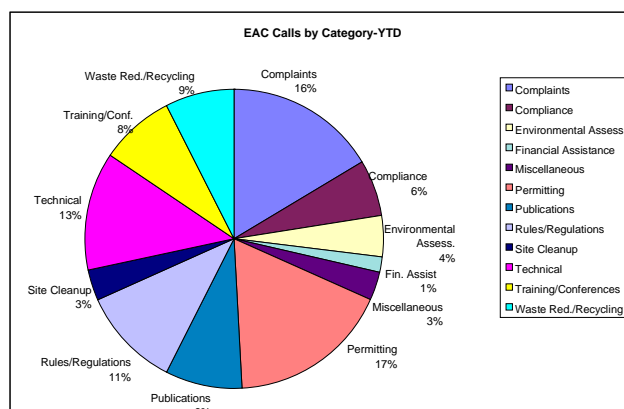
The EAD produces a bimonthly newsletter entitled the *EAD Bulletin* which is distributed to over 5,500 businesses, government and trade associations, municipalities, chambers of commerce, academia, environmental interest organizations, and the public. The newsletter provides information on legislative changes in environmental law, describes new pollution prevention programs, provides updates on new environmental customer services, and promotes training opportunities. New in 1999, the *EAD Bulletin* became available on a listserver through the DEQ's Internet home page. For those readers desiring an electronic subscription, that option is now available. This on-line subscription service now serves over 200 readers, ultimately leading to reductions in paper usage and mailing costs.

www.deq.state.mi.us/ead/bulletin/

Environmental Assistance Center

The Environmental Assistance Center (EAC) provides direct access to the DEQ environmental programs by answering questions directly, or referring callers to the proper divisions and persons who can provide the requested information. The EAC, which began operating in February 1995, also takes registrations for workshops and fills requests for publications.

Providing direct access to all environmental protection programs for Michigan businesses, municipalities, institutions, and the general public is the main objective of the EAC. Creation of the EAC grew out of discussions with DEQ stakeholders. The EAC is a commitment by the DEQ to provide responsive customer service for those seeking pollution prevention assistance or attempting to comply with or inquire about Michigan's environmental regulations and programs. The number of calls increased from 904 in September 1995 to 3,858 during the same period of fiscal year 1999. The total number of calls received during fiscal year 1998 was 31,761 and increased to 43,183 for fiscal year 1999. The chart below depicts these calls by category of inquiry:



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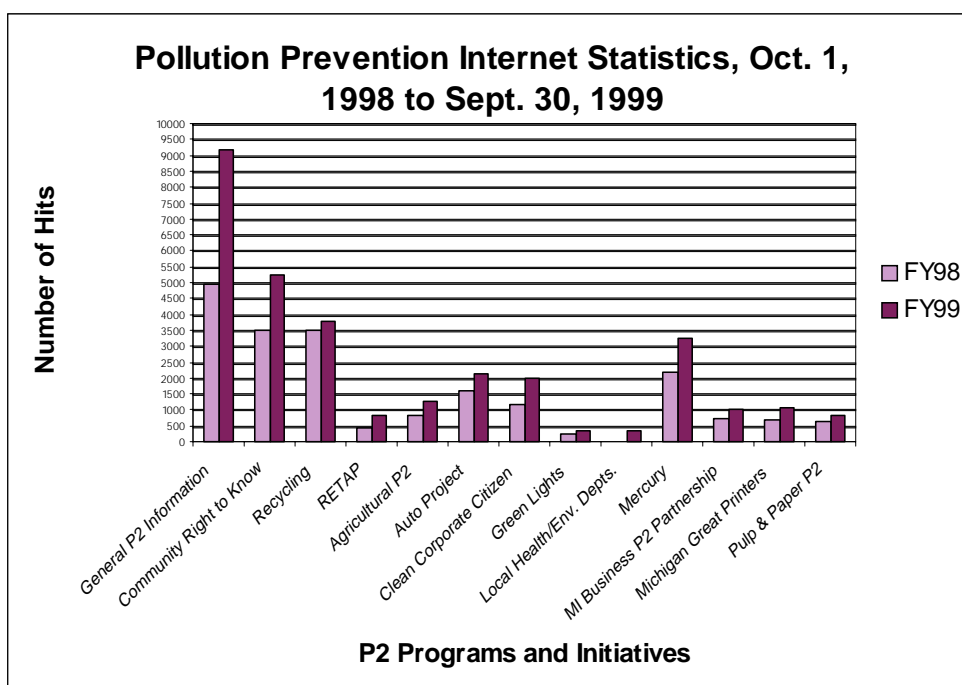
The EAC can be reached toll free by dialing 800-662-9278 or through e-mail at deq-env-assist@state.mi.us

www.deq.state.mi.us/ead/tasect/eac.html

Internet Sites

The department's Internet sites provide citizens, business, and local government quick access to information. This year the pollution prevention and compliance assistance Internet sites were enhanced and kept current.

For more information on the programs, please check the web sites listed throughout each topic of this report or go to the Environmental Assistance Division web page at www.deq.state.mi.us/ead/



Source: MDEQ Internet Statistics Database

Above table includes statistics on citizens access to Community Right-to-Know and Clean Corporate Citizen, etc.

Pollution Prevention Week

Michigan joined other states around the country this year in observing National Pollution Prevention Week, September 20-26, 1999. The purpose of Pollution Prevention Week (P2 Week) is to increase industry and public awareness of the importance of pollution prevention to environmental protection and economic prosperity. Michigan leaders participated in bringing this message home. Governor Engler, in his proclamation of the week's observance, asked for "governments to join forces with business, industry, environment groups, community organizations, and the citizenry at large to take action toward a prosperous and sustainable future." The Michigan Senate resolution stressed that "pollution prevention is a fundamental approach to protect the environment and maintain the health and safety of workers in the workplace by stopping pollution before it occurs." Lastly, DEQ Director Russell Harding, in an open letter, invited Michigan citizens to actively promote P2 projects in their homes, workplace, and shared communities. He affirmed that "every contribution of time, energy, and commitment brings us closer to more efficient manufacturing practices, wiser use of materials, and conservation of our state's resources."

The EAD undertook a number of outreach activities to promote P2 Week:

- mailing a P2 Week Planner to over 3,500 communities, organizations, and businesses;
- enhancing EAD's P2 web site to include mercury collection sites, an environmental calendar, environmental education internet links, and pollution prevention tips;
- holding a mercury thermometer exchange program for employees called "Catch the Fever";
- distributing a pollution prevention week poster; and
- sponsoring appreciation letters from Governor Engler to members of the Environmental Assistance Division's pollution prevention partnerships.

www.deq.state.mi.us/ead/p2sect/p2week

Pollution Prevention Week Planner

September 20-26, 1999



"Preventing Pollution is the Best Solution"



Presentations and Events



The EAD develops environmental education and training workshops that are customer-driven. Through planning committees and multi-organizational co-sponsorships, EAD develops workshops that meet the needs of the target audiences.

In fiscal year 1999, over 900 people attended EAD-sponsored P2 workshops held throughout the state. In addition, the EAD incorporated P2 information into its other environmental workshops, attended by another 1,300 people. The EAD coordinated exhibits at 47 environmental events, promoting P2 programs and distributing P2 materials.

Among the fiscal year 1999 P2 events hosted by the EAD was the tenth annual Pollution Prevention Roundtable attended by 115 persons. For the 1999 event, Michigan hosted the Great Lakes Region Pollution Prevention Roundtable Summer Meeting. The theme for the two-day event was P2 Partnerships for the Millennium: Government, Community, Agricultural, and Industrial.

Other workshops held during the year included the following:

- EAD's 'Waste Reduction '98 – You Can Make It Happen! Great Lakes Region 6th Annual Workshop to improve efficiency and productivity, reduce costs, risks, and liabilities," was held in Detroit on November 5, 1998. Nearly 350 attendees selected from five concurrent tracks on the following: automotive P2; manufacturing P2; brownfield, construction, and demolition; energy efficiency; and eclectic P2 sessions.
- EAD conducted two workshops on SARA Title III Tier II and in addition, three workshops on EPCRA/CERCLA Emergency Notification Release Reporting.

In response to organizations' requests for environmental speakers, the EAD coordinates a speakers' bureau. During fiscal year 1999, the speakers' bureau responded to nearly 20 requests from trade associations, companies, governments, educational institutions, and nonprofit organizations. Speaker requests are used to provide informational presentations on P2 and the EAD's assistance programs.

Fiscal Year 2000 plans include a number of P2 education and training projects focusing on waste reduction and energy efficiency, soil erosion, applying pollution prevention to odor control practices, workshops for manufacturers on the new environmental health and safety guidebook, and the annual pollution prevention roundtable.

POLLUTION PREVENTION ASSISTANCE PROGRAMS

Field Staff Services

In fiscal year 1999, EAD expanded its field operations program to five full-time staff located at the Detroit, Plainwell, Jackson, Saginaw Bay, and Cadillac district offices. The map at the end of this section (page 24) indicates the geographic areas covered by each of the field staff.

The field staff work closely with public health agencies, district staff from other DEQ divisions, businesses and industry, local government, educational institutions, and trade associations to promote EAD's pollution prevention and assistance programs. The field staff are responsible for implementing work plan tasks established under the Michigan Department of Environmental Quality/Local Health and Environmental Departments Pollution Prevention Partnership. The field staff also are responsible for integrating pollution prevention into regulatory programs at the district office level.

EAD field staff positions were established just two years ago, but the impact they have made throughout the state in that short time period is significant. Several achievements made by field staff include:

- establishing good working relationships with the local health and environmental departments;
- developing a marina pollution prevention program;
- promoting pollution prevention programs at the local level to groups that were unaware of pollution prevention and its benefits;
- working closely with industry to help them solve their waste reduction and recycling problems;
- becoming active participants in local environmental groups such as the West

Michigan Sustainable Business Forum and the Detroit River Remedial Action Plan Team; and

- creating useful P2 fact sheets and materials that relate to the needs of local health and environmental departments such as Marina P2, Boating P2 and Food Industry P2.

In fiscal year 2000, EAD will add a sixth field staff person to the Marquette district office. In addition to the job duties mentioned above, this staff person will work with a stakeholder group to develop and implement pollution prevention programs specific to the protection of Lake Superior.

www.deq.state.mi.us/ead/p2sect/lhed/staff.html

Field Services 1999 Activity Highlights

- ❖ The Environmental Assistance Division sponsored two environmental coordination workshops in the Jackson and Shiawassee DEQ district office regions. The workshops were intended to improve communication and understanding between the DEQ district regulatory divisions and the local health departments within these respective districts; and to promote pollution prevention issues. Attendees agreed that the workshops were extremely valuable, and committed to hold them at least yearly. Also, the workshops helped foster the possible formation of a district workgroup consisting of representatives from DEQ and the health departments that would work together to find solutions to environmental issues within their region.
- ❖ The city of Saginaw asked the EAD Saginaw Bay field staff representative to participate in an interview on public access TV to promote pollution prevention. The city set up a P2 display and opened its waste water treatment plant for tours during P2 Week.
- ❖ Genesee County Health Department committed to promoting pollution

prevention within its own department. They promoted P2 to their employees and the general public during P2 Week. The Environmental Health Department is in the process of having a Retired Engineer Technical Assistance Program (RETAP) assessment done at the health department offices and laboratories. The department hopes to become a pollution prevention model for other county agencies and municipalities in Genesee County.

- ❖ The EAD Cadillac field staff representative, served as planning chair for the 55th annual Michigan Environmental Health Association Annual Education Conference held in Frankenmuth, Michigan in March, 1999. The conference was attended by more than 300 environmental professionals and included many sessions on P2.
- ❖ The EAD Detroit field staff representative, created several new publications including:
 - *Eco-Friendly Boating* provides general P2 activities and waste reduction tips for the recreational boater.
 - *P2 and Waste Reduction for the Marine Industry* provides general P2 activities and waste reduction tips for the boating industry including marinas, marine dealers, boat manufacturers, and recreational harbors.
 - *Food Industry Pollution Prevention & Waste Reduction* provides general pollution prevention activities and waste reduction tips for food-related industries including restaurants, supermarkets, produce and concession stands, institutional food facilities and recreational facilities, and community events. The fact sheet targets businesses over which the department has little or no regulatory authority.
- ❖ The Macomb County Health Department, with cooperation and support from EAD, began a "Marine Hazardous Waste Collection and Pollution Prevention Program," a voluntary initiative that targets marinas along Lake St. Clair and the Clinton River. The program aims to increase awareness and promote use of marina and boating Best Management Practices (BMPs) to help alleviate pollution to Lake St. Clair from these industries and recreational activities. This program has the potential of reaching up to 56 marinas and 27 marine service businesses located in Macomb County and will serve as a pilot for statewide expansion.
- ❖ Sixteen county and city environmental health and environment staff attended the P2 integration training session in southeast Michigan. The environmental health directors were so pleased by the enthusiasm displayed by their staff after the training that the directors have expressed an interest in similar training in the future. Similar training in Southeast Michigan for the county and city environmental health staff is proposed for fiscal year 2000.
- ❖ With pollution prevention information provided by EAD, the Shiawassee Huron River Headwaters Preservation Project is developing a CD-ROM to be distributed to residents, developers, businesses, public agencies, and landowners in six communities and townships in southeast Michigan. The CD-ROM includes information on EAD publications, nonpoint source pollution prevention, stormwater management, best management practices for watershed protection; and back road development, wetland protection, and septic system maintenance.
- ❖ The EAD Jackson field staff representative accompanied DEQ regulatory staff on over 50 compliance inspections to personally help companies with waste reduction issues or to promote EAD programs that would benefit the company. The companies have reacted positively to this on-site assistance.

Michigan Material Exchange Service



The Environmental Assistance Division began piloting a material exchange program for businesses in fiscal year 1997. The program provides Michigan businesses with an opportunity to exchange unwanted materials with potential users through the Internet. EAD is currently using the following Internet-based exchange services: Recycler's World, the Ohio Materials Exchange, the Indiana Materials Exchange, and The Millennium Exchange, Ltd.

The Michigan Materials Exchange Service was designed to provide Michigan generators an opportunity to exchange surplus and reusable materials. Not all businesses are comfortable with or have easy access to the Internet. By providing this service, materials that may otherwise be disposed can find a useful life elsewhere. The service operates as follows: information regarding the material(s) to be listed on the exchange is obtained from the generator who has the material(s). This information is then posted on the above exchanges with EAD being the contact, not intermediary, for the exchange. When a party is interested in the material(s), the generator is notified by EAD and provided information to facilitate the exchange. At that point, the EAD is no longer involved. Staff also assist in locating materials that may be available on these on-line services.

In fiscal year 1999, 22 materials were listed through the EAD service. This represents a ten percent increase in materials compared to fiscal year 1998. There have been numerous inquiries regarding the procedure for using the Internet exchanges. This increased interest by businesses has allowed EAD to educate generators, who have access to the Internet, to use materials exchanges independently. A

publication promoting the service was published in the spring of 1999 (*Michigan Materials Exchange Service*, www.deq.state.mi.us/ead/pub/factsheet/matexsvc.pdf).

Recyclers' World:

www.recycle.net/recycle/

Ohio's Materials Exchange:

www.epa.state.oh.us/opp/recyc/omex.html

Indiana Materials Exchange:

www.ai.org/idem/imex/

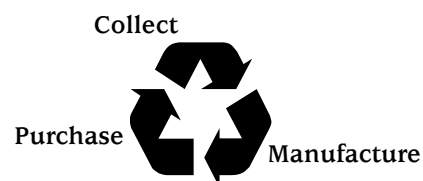
The Millennium Exchange:

www.millenniumexchange.com

Recycling Initiatives

Pollution prevention follows a simple formula of reduce, reuse,

and recycle that has been encouraged for decades. The hierarchy remains effective. First priority should always be reduction at the source followed by reuse. However, recycling continues to be a popular activity from the largest Michigan corporation down to the smallest community. Using websites, workshops, publications, and technical assistance, staff continue to provide resources to more effectively recycle generated materials.



The EAD continues to publish two directories listing businesses that either recycle material or make recycled products. Below are summaries of these publications:

The Recycled Materials Market Directory

(RMMD) is a tool developed over seven years ago to help Michigan businesses and communities find markets for recyclable waste. It lists over 550 companies and has proven to be helpful to the regulated community and

local recycling organizations. This type of directory is published by most states and is a valuable tool for promoting pollution prevention. This directory went on-line in late 1997.

The Recycled Products Directory (RPD) is a directory listing over 150 Michigan companies that manufacture recycled products. The third edition of the directory is currently available in paper copy form. It is important for the state to strengthen the infrastructure of recycling as part of its commitment to promoting pollution prevention. This directory provides a focus on buy-recycled efforts and helps stabilize recycling in the state. The RPD is useful to purchasers who sometimes are mandated to buy recycled products and to Michigan businesses wanting to promote the use and availability of recycled products.

Besides providing these beneficial tools to the generating community in Michigan, DEQ partnered with the Michigan Recycling Coalition to present a Business Recycling Expo in 1997. This event was combined with the annual conference of the Coalition in 1998 and 1999. The Coalition continues to include business recycling aspects into its annual conference with the assistance of DEQ staff. This has resulted in a greater audience of businesses and communities being exposed to the purchasing and manufacturing components that are vital to successful recycling efforts.

www.deq.state.mi.us/ead/recycle

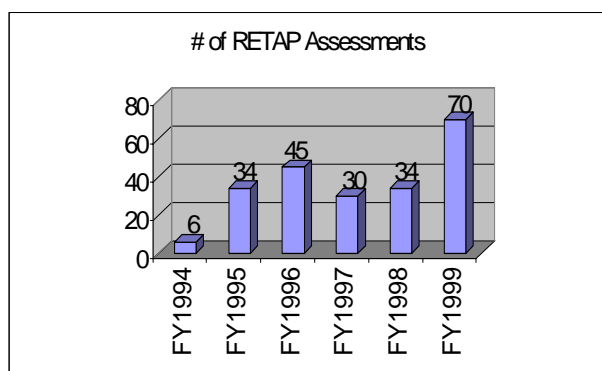
Retired Engineer Technical Assistance Program (RETAP)



The Michigan Retired Engineer Technical Assistance Program (RETAP) began as a pilot project in 1994 and became a permanent program in 1998. It provides on-site pollution prevention assessments to small companies, municipalities, and institutions. These services are designed to identify pollution prevention opportunities including improved process efficiency and lower waste management costs. RETAP assistance also helps businesses retain jobs and maintain competitiveness. Retired professionals, with an average of 35 years of industrial experience, provide the assistance.

The Clean Michigan Initiative provided \$10 million to establish an endowment fund to operate the program. To develop a strategy for expanding the program with this permanent source of funding, the EAD used a stakeholder process. Representatives of educational institutions, business and trade associations, local government, environmental groups, state government, and small business comprised the stakeholder group. The strategy will guide the DEQ in effectively expanding and implementing the program. The expansion strategy places a strong emphasis upon encouraging facilities to reduce waste by increasing their access to RETAP assistance and sharing the results of assessments and benefits of pollution prevention through case studies and fact sheets. The stakeholder group set goals and objectives for determining the program's effectiveness in increasing pollution prevention awareness, implementation, and reducing waste generated. A recruitment and training plan was developed to ensure qualified RETAP assessors are recruited and retained to provide high quality, clear, and consistent on-site pollution prevention assessments.

With the CMI funding, the RETAP will assist an increased number of facilities. As a pilot project, the average number of assessments per year was 30. This past fiscal year, the RETAP assessors completed 70 assessments, for a total of 219 since the program began. The following charts show the number of assessments completed for each fiscal year and the types of companies and institutions that have received the assistance. The new goals are 100 assessments in fiscal year 2000, and 150 in future fiscal years.



Examples of Types of Facilities Assisted by RETAP
Agricultural Businesses
Auto Service
Chemical
Dry Cleaning
Electroplating
Food Products
Hospitals
Lithographic Printers
Metal Finishing
Metal Forming
Painting and Coating
Plastics and Rubber
Retail
Schools
Tool and Die
Wastewater Treatment Plants
Wood Products

Ten new retired professionals were hired in fiscal year 1999, for a total of 42 RETAP assessors located throughout the state with diverse experience in Michigan industry. A training conference in September provided information on specific pollution prevention topics for existing and new assessors. Also, the assessors received on-site training about conducting effective waste assessments.

Case studies were developed about the RETAP assessments at Shane Steel Processing, Inc. and MacDermid Incorporated. Shane Steel Processing, Inc. straightens, shears, and precision grinds steel bar stock for industrial applications. This case study describes the company's waste reduction actions in preventive maintenance, converting to propane-powered forklifts, reducing energy usage, recycling portions of grinding wheels, and reducing oil and water usage. MacDermid is a manufacturer of approximately 600 specialty chemicals in Ferndale, Michigan. The RETAP team was able to assist the company with reductions in the areas of water and water treatment, electrical power, gas heat, and packaging. The company reduced the cost of water treatment chemicals by over \$100,000 per year.

In fiscal year 1999, RETAP began an expansion by providing assistance to an increased number of facilities.

Seventy assessments were conducted.

In fiscal year 2000, that number will increase to 100, followed by 150 in future years.

www.deq.state.mi.us/ead/retap

Small Business Pollution Prevention Loan Program

On November 3, 1998 Michigan voters approved the Clean Michigan Initiative that included \$5 million for a Small Business Pollution Prevention Loan Program (P2 Loan Program). Subsequent legislation called for the DEQ to develop and administer the program. The P2 Loan Program will offer loans at an interest rate of 5 percent or less, to small businesses. Low-interest loans reduce financial barriers typically encountered by small businesses interested in implementing P2 improvements.

During the past year, EAD staff, with the assistance and input from stakeholder groups, designed the small business loan program, fact sheets, and application forms. They also prepared corresponding administrative rules, expected to be operational in January, 2000. P2 loans will be available to any business that is independently owned and operated, is not dominant in its field, and employs 100 or fewer individuals. The loans must be used to implement a project that eliminates or reduces waste through pollution prevention. The small business would apply for a loan from the lending institution of their choice. The lender will share in leveraging the loan where one-half the loan amount will come from the lender's resources and one-half from the P2 Loan Fund. Loans of up to \$100,000 dollars may be obtained. The EAD will be responsible for reviewing the pollution prevention project applications for eligibility.

The P2 Loan Program is available to finance either P2 recommendations provided in a RETAP audit or for qualifying P2 expenditures. The project must directly result in reduction of environmental waste created or generated at the site of the applicant's facility. Types of projects that may be funded include:

- equipment or technology modifications;
- process or procedure modifications;
- redesign of products and substitution of raw materials;
- improvement in housekeeping, maintenance, training, or inventory control;
- qualified energy efficiency improvements.

In fiscal year 2000, it is anticipated that the loan program administrative rules will be approved and that program implementation will begin. Once the program is available, the EAD intends to market the program to small businesses and lending institutions.

www.deq.state.mi.us/ead/p2sect/p2loan



Technical Assistance

The pollution prevention (P2) technical assistance staff helped over 500 businesses reduce waste and save money by providing common sense information and materials on clean production practices and recycling. This assistance, provided free through the P2 Program, was given in response to telephone inquiries, e-mail, fax, mail, workshops, seminars, and on-site visits.

Last year, staff laid the groundwork for establishing a P2 technical assistance partnership with Michigan's metal finishing industry. The purpose of this partnership is to improve coordination and strengthen the delivery of P2 services to the industry. A primary outcome of this effort is to improve the environmental performance in this industry sector.

The partnership, supported by the Michigan Association of Metal Finishers and local municipalities, will build on the success of existing P2 programs and leverage the activities of national and regional metal finishing projects. With cooperation from partners, staff will develop and implement a strategy for providing technical assistance, develop publications, and provide incentive for furthering P2 within this sector.

Staff also made great strides towards developing relationships with research organizations, consultants, and other P2 programs to disseminate practical information on P2 methods and technologies throughout the business community. The Technical Assistance Providers Network and the new Metal Finishing Pollution Prevention Initiative, discussed earlier, are just two examples of the fruits of these efforts. The goal next year is to strengthen

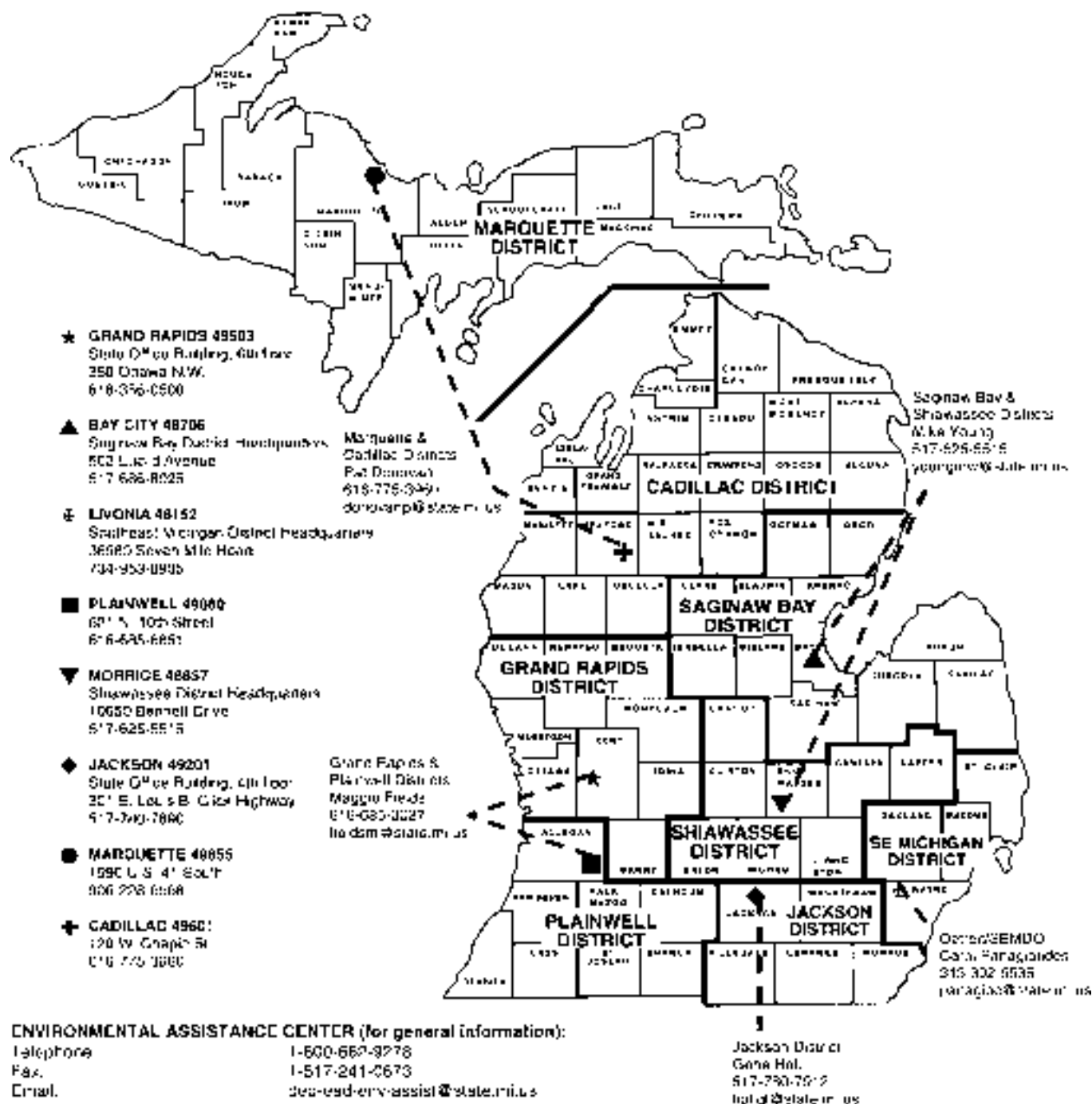
these relationships and forge new ones with the coating industry and local municipal wastewater treatment plants whose operations can be affected by wastewater discharged from commercial and industrial sources.



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
 Environmental Assistance Division Pollution Prevention Section
 Field Staff Representatives
 District Boundaries and Offices



John Engler, Governor - Russell J. Harding, Director



Revised 12/4/95

POLLUTION PREVENTION PARTNERSHIP PROGRAMS

Agricultural Pollution Prevention (AgP2)

Michigan's Departments of Agriculture (MDA) and Environmental Quality have been addressing pollution problems related to the agricultural industry through the Groundwater and Freshwater Protection Act, the Groundwater Stewardship Program, and the Agricultural Pollution Prevention (AgP2) Project.

The AgP2 activities are guided by the Michigan Agricultural Pollution Prevention Strategy, building on current programs and improving coordination among the public agencies that offer environmental services to farmers and their suppliers. The DEQ works closely with other agricultural P2 service providers including MDA, Michigan State University-Extension, Michigan Farm Bureau, Natural Resources Conservation Service, and the Michigan Agri-Business Association.

AgP2 fiscal year 1999 activities included the following:

- Developed and distributed the Agricultural Pollution Prevention Directory.
- Developed agricultural pollution prevention producer case studies.
- Secured additional funding for the Mercury Manometer (vacuum gauges) reduction effort for Michigan dairy farms.
- Funded the Innovative Farmers of South Central Michigan to demonstrate a Precision Farming Research Project, which

will examine the application of agricultural global positioning systems (GPS) and variable rate technologies.

- Funded AgP2 field demonstrations through the Michigan Agricultural Stewardship Association.
- Co-chaired the Saginaw Bay Watershed

Initiative Network (WIN), Agricultural Pollution Prevention Task Group that involved setting priorities and selecting related projects for potential funding.



The 1999 projects selected for funding include:

- the Innovative Farmers of Huron County field test soy-based 2-cycle engine oil project;
- the local provenance encouragement (native plants);
- the Saginaw Bay Watershed Chemical Collection program; and
- showcasing six agricultural operations with 5 tours and/or conferences.

The DEQ and MDA continued to provide support on the development of the Michigan Agricultural Environmental Assurance Program (MAEAP) to recognize and provide incentives for producers who are engaging in cost effective pollution prevention and are in compliance with environmental regulations. During the year, a program coordinator was hired through Michigan State University to assist in developing the program. Focus group meetings were held to gain input into the program and a nutrient management plan was developed that demonstrates P2 and best management practices. The MAEAP pilot program is scheduled to be implemented in summer 2000.

www.deq.state.mi.us/ead/p2sect/agp2/

Clean Corporate Citizen (C3) Program



There has been a flurry of activity in the Clean Corporate Citizen (C3) Program over the past year. Staff has been working with establishments throughout Michigan that want to highlight their environmental successes by participating in this voluntary program of public recognition and regulatory benefits. The growth and success of the C3 program shows that going beyond compliance toward continuous improvement results in valuable benefits for C3 establishments. To obtain a C3 designation, applicant facilities must demonstrate performance in three main areas:

- (1) a strong and effective environmental management system;
- (2) a pollution prevention program that includes identification of pollution prevention opportunities, established goals, accomplishments, and participation in information exchange; and
- (3) consistent compliance with applicable environmental requirements.

Companies, industries, institutions, and local units of government qualify to apply for a facility-specific C3 designation. There are currently 14 facilities that have achieved C3 designation and several more that have applications are in the works. Please join us in offering congratulations to the Clean Corporate Citizen designees and applicants listed in Appendix A.

The DEQ has continued to work on the development of new administrative rules to expand the C3 program to all regulated facilities and add new benefits in the surface water and groundwater permitting programs. A public hearing on the proposed rules was

held on January 13, 1999 and draft rules have been submitted to the legislature based on comments received during the hearing. The rules are to be adopted by early 2000.

EAD has developed a manual to assist small- and medium-sized businesses and organizations in developing an Environmental Management System (EMS). *The Environmental Management System Guidance Manual* is designed in a user-friendly workbook format and has been developed to support the C3 program and encourage the use of such systems. EMS's assist a facility in identifying, monitoring, and controlling environmental impacts. The EMS is being used worldwide by businesses, organizations, and agencies to improve environmental control and performance. An establishment must have a facility-specific operating EMS to qualify for application to the C3 program.

www.deq.state.mi.us/ead/tasect/c3/

"Clean Corporate Citizens have demonstrated that they can be relied upon to successfully carry out their environmental protection responsibilities without rigorous oversight. By streamlining the regulatory process, the DEQ can better focus its efforts on facilities that lag in environmental compliance."

Russell J. Harding
DEQ Director

Department of Defense/State of Michigan Pollution Prevention Alliance

The Department of Defense Pollution Prevention Alliance (DOD P2 Alliance) is a new EAD sector-specific partnership. The alliance, consisting of representatives from the Department of Defense (DOD) National Guard, Army and Air Force reserve bases, armories, special divisions, Region 5 DOD and U.S. EPA representatives, and the Environmental Assistance Division, was initiated in April 1999. Its purpose is to facilitate pollution prevention information and technology exchange in order to leverage resources among the military facilities located in Michigan. The alliance is modeled after similar partnerships in other states. It was the result of top DOD leadership seeking partnerships with states on environmental matters and targeting pollution prevention at military facilities.

Michigan's DOD P2 Alliance has drafted a charter that, when signed, will serve as a guide for its activities.

The charter highlights five goals:

- Integrate P2 into all aspects of the decision making process to maintain or surpass regulatory requirements;
- Share information and resources to provide cost-effective solutions and promote networking relationships;
- Promote open dialogue and the exchange of expertise between the regulatory community and military-related activities through a commitment to alliance participation;
- Join together in common initiatives to save resources and achieve common goals while eliminating duplication of efforts;
- Be a good neighbor to other agencies and the community by communicating results and lessons learned.

The DOD P2 Alliance has held four meetings. The meetings offer the participants an opportunity to exchange P2-related technology and planning strategies. In June, a representative from DEQ's Surface Water Quality Division was invited to speak on storm water run-off rules, permits, and P2 solutions. In August, the meeting was held in Battle Creek where the participants were provided a presentation of the Battle Creek Defense Reutilization and Marketing Services. This facility manages excess materials at the military facilities and finds alternative uses or owners for the waste. Two tours for Michigan pollution prevention professionals were also held at the Grayling National Guard facility.

Topics identified for future DOD P2 Alliance meetings include pollution prevention solutions for purchasing and inventory control, expired shelf life items, parts cleaning, paint wastes, oil and water separators, lead from small arms ranges, and education and awareness programs.



Water used to put out the fire in this simulated exercise is contained and used in a closed-loop system.

Green Lights Program

The DEQ is the lead agency for the State of Michigan's Green Lights Program. Green Lights is a voluntary program developed by the U.S. EPA, aimed at reducing pollution from energy production caused by electrical lighting demands. There are over 2,000 companies, government agencies, hospitals, universities, and nonprofit organizations participating in this program. By encouraging participants to install energy efficient lighting, Green Lights has helped organizations realize an average of 30 percent return on their lighting investment. All Green Lights participants sign a voluntary Memorandum of Understanding (MOU) with U.S. EPA, agreeing to survey their domestic facilities, upgrade their lighting (where profitable), and complete their lighting upgrades within five years. The U.S. EPA helps partners obtain the most current information about energy efficient lighting technologies and helps partners decide which technologies are best for them.



Plans for fiscal year 2000 include planning lighting upgrades for the remaining State of Michigan out-state complexes with performance contracts. Newly constructed State of Michigan public buildings are scheduled to incorporate energy efficient lighting as per the MOU between the State of Michigan and U.S. EPA. A Green Lights implementation report will be submitted to U.S. EPA to document progress.

www.deq.state.mi.us/lead/p2sect/grlight.html

Michigan's environmental achievements in Green Lights are equivalent to the removal of 5,274 cars from U.S. highways or the planting of 7,225 acres of trees in U.S. forests. Each car removed is equivalent to preventing 10,000 pounds of carbon dioxide. Every acre of trees planted represents 7,300 pounds of carbon dioxide prevented.

Michigan State Government has completed upgrades on 14,812,103¹ million square feet of its state-maintained facilities. Surveys of lighting usage have been completed for 21,302,578 million square feet. Dollars saved on state lighting upgrades amount to \$1,660,489 per year and upgrades have reduced the lighting load by 5,349 kilowatts with an electricity reduction of 24,544,851 kilowatt hours. Michigan's lighting upgrades have also resulted in the reduction of the following pollutants due to less energy demand:

- Carbon dioxide 52,744,792 pounds per year
- Sulfur dioxide 568,089 pounds per year
- Nitrogen dioxide 191,185 pounds per year
- Heavy metals 49 pounds per year

¹Note: Adjustments for the reported achievements were made to the square footage numbers to reflect U.S. EPA calculations. Changes in the emission calculations were made to coincide with the revised U.S. EPA calculation methods for the new ENERGY STAR program.

Local Health Department Partnership



In April 1998, the DEQ and the Michigan Association for Local Public Health (MALPH) established a partnership that recognizes the important role local public health environmental departments (LHED's) and environmental agencies can play in promoting pollution prevention. The mission of the partnership is to enhance and increase the practice of pollution prevention in Michigan through cooperative and collaborative efforts that maximize the pollution prevention services of all participating agencies.

A partnership work plan was developed as the result of recommendations made by a work group representing county environmental and public health departments, industry, environmental groups, MALPH, and DEQ. The work plan contains five objectives and several respective goals that when achieved, will improve pollution prevention services and promote innovative programs to the regulated community and the general public. During fiscal year 1999, approximately 50 percent of the work plan was completed. Some of the major achievements are as follows:

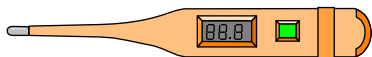
- A P2 Partnership Oversight Committee consisting of management representatives from DEQ, MALPH, Kalamazoo County Health Department, and Saginaw County Health Department was formed to oversee and guide Partnership activities.
- EAD created a special Internet web site for all partnership activities and information. It is located at www.deq.state.mi.us/ead/p2sect/lhed. The site contains news, training information, P2 resource information, and links to other environmental health-related Internet sites.
- EAD prepared and distributed a survey to all of the LHEDs in Michigan. EAD staff analyzed the results, wrote a report on the findings and presented the findings to the environmental health directors at their annual conference. The survey report is available on the DEQ-LHED P2 Partnership web site.
- Two coordination workshops were held in the Shiawassee and Jackson districts. DEQ staff and LHED staff from within each district met for one day to discuss their programs, how to better communicate between the respective agencies, and common issues of importance to work on together. Attendees agreed that these were extremely worthwhile meetings and at a minimum should be held yearly.
- Macomb County Health Department received a grant to initiate a Marina Pollution Prevention Program targeting the marinas and marine industries that impact Lake St. Clair. Macomb County staff are conducting voluntary waste assessments at the participating marinas, and suggesting P2 alternatives to waste creating practices.
- Genesee County Health Department has begun an effort to promote pollution prevention activities throughout their county operations, including the health department, vehicle maintenance, and road commission.
- Many LHED staff were invited and participated in the Pollution Prevention Integration Technical Training offered in spring of 1999. Not only did the training help foster relationships by allowing LHED staff to attend training with DEQ regulatory staff, the training was an excellent opportunity for LHED staff to see the P2 potentials within a large industry.

- As a result of the EAD field staff promotion of the partnership and the benefits of pollution prevention; two LHEDs are working within their agencies to hire staff specifically for pollution prevention work.

In fiscal year 2000, EAD will continue to make progress on the P2 Partnership workplan. It is anticipated that a proposed Clean Michigan Initiative Regional Pollution Prevention Grants program will provide needed funding to several LHEDs to implement pollution prevention programs that directly fulfill tasks outlined in the workplan.

www.deq.state.mi.us/ead/p2sect/lhed

Mercury Reduction Initiative



Michigan continues to emphasize mercury as a high priority pollutant and commits considerable time, energy, and resources toward reducing anthropogenic (human-made) releases of this pollutant by implementing pollution prevention practices. These efforts also encompass the over 70 recommendations in the Mercury Pollution Prevention in Michigan (M2P2) Task Force Final Report www.deq.state.mi.us/aqd/publish/m2p2.html. Highlights of EAD's 1999 contributions to the Mercury Reduction Initiative include the following activities:

- During National Pollution Prevention (P2) Week over 640 mercury thermometers were exchanged by DEQ and Lansing-based Michigan Department of Community Health (MDCH) employees for a **FREE** digital fever thermometer, in DEQ's "Catch the Fever" Mercury Thermometer Exchange Program. Numerous vials of elemental mercury, mercury switches, thermostats, and laboratory thermometers were also turned in. Next year, EAD intends to partner with the National Wildlife Federation to conduct thermometer exchanges for *all* hospitals along the Lake Superior shoreline as part of the Lake Superior Initiative.
- 1999 saw the successful completion of Phase II for the Dairy Mercury Manometer Exchange Program. In this program, EAD partnered with the Michigan Department of Agriculture and the dairy industry to find and replace mercury gauges with dial and electronic gauges in eight Michigan counties. To date, nearly fifty of these devices, containing nearly a pound of

mercury each, have been replaced with the alternative gauges. Next year, the program is slated to expand even further with the goal of accessing *all* the remaining dairy farms statewide. www.mda.state.mi.us/hot/mercurymanometers/index.html.



- A new partnership between Michigan Health and Hospital Association, its member hospitals, and EAD was recently formed. The partnership is called Hospitals for a Healthy Environment (H2E). Designed to assist hospitals eliminate mercury use and cut hospital waste generation in half by 2005, the partnership has agreed to a Memorandum of Understanding between the American Hospital Association and EPA. In 1999, the group secured twelve collection sites throughout Michigan, recovered more than 200 pounds of mercury, and nearly one thousand mercury containing devices were taken out of circulation.



- In 1998, a multicultural task force was established for the purpose of addressing the dangers of mercury used in religious and cultural practices in certain Hispanic communities. In 1999, the bilingual (English/Spanish) Mercury Alert brochure was published to explain how in certain ritual practices and folk remedies, metallic mercury and mercury compounds may be used by Mexican-American and Latin-American cultural groups. This publication

may be obtained by contacting EAD's Environmental Assistance Center at: 800-662-9278. A targeted distribution campaign is planned for the spring of 2000.

- In 1999, EAD staff gave presentations on mercury P2 projects and accomplishments at two mercury P2 conferences targeting the health care community. Staff also provided mercury displays at EAD and health industry events. The division's Environmental Assistance Center received 15-20 mercury inquiries weekly and staff responded to more than 800 requests last year.
- EAD staff continues to work with other divisions on P2 regulatory integration issues. For example, EAD worked with DEQ's Air Quality Division to incorporate mercury source reduction and mercury spill management plans into City Medical Waste Services incinerator operating permit. EAD also worked with the Surface Water Quality Division to develop a mercury P2 Supplemental Environmental Project (SEP) for the city of Menominee.
- Thus far, EAD's Mercury Pollution Prevention home page (www.deq.state.mi.us/ead/p2sect/mercury) has received over five thousand visitors since it first went on-line in June of 1997. A multimedia mercury web page explaining mercury's toxicological/health effects, regulatory programs, pollution prevention, spill remediation, and disposal requirements for mercury waste will be available in January 2000.

For a complete listing of EAD's mercury P2 accomplishments see: *M2P2 Interim Implementation Strategy Progress Report*, August 1999, on the mercury P2 home page: www.deq.state.mi.us/ead/p2sect/mercury/mercprog.pdf.

Michigan Automotive Project



The Michigan Automotive Pollution Prevention Project (Auto Project) is a voluntary pollution prevention and resource conservation partnership between DaimlerChrysler, Ford, General Motors (GM), and the Michigan Department of Environmental Quality. The partnership was formally announced with the signing of a project agreement on September 23, 1999.

The Michigan Auto Project builds on the success of the U.S. Auto Project, which concluded in 1998. The project is a commitment to reduce pollution during vehicle manufacturing and assembly and the focus is the elimination of waste before it is created. The mission of the Auto Project is to:

- promote P2 throughout Michigan's auto manufacturing operations;
- concentrate on reduction in the use, generation, and release of persistent toxic substances and other materials of concern; and
- conduct these efforts in a manner that enhances environmental and competitive performance of the auto manufacturing industry.

Pollution prevention is not a new concept for the auto companies. Since 1991, the auto companies have achieved a 46 percent reduction of EPA Toxic Release Inventory reportable releases on a vehicle-produced basis. These reductions have been accomplished, in part, through process improvements, changes in material inputs, and recycling.

Each auto company has adopted management practices that elevate the importance and visibility of pollution prevention. For example,

DaimlerChrysler just released its first corporate environmental report to share its objectives and accomplishments within the company and with the public. Ford has certified all its manufacturing facilities worldwide to ISO 14000 (an international standard for environmental management). GM has added environmental tools to its supplier development workshops to help cut costs by educating suppliers in pollution prevention.

The auto companies pledge to work together to advance pollution prevention within their organizations and with DEQ to promote pollution prevention to auto suppliers and to other industries in Michigan. The companies will develop pollution prevention case studies and publish an annual report to include measurable results on reductions in the use, generation, and release of persistent toxic substances and other materials of concern.

www.deq.state.mi.us/ead/p2sect/auto

The Michigan Business Pollution Prevention Partnership (MBP3)



The Michigan Business Pollution Prevention

Partnership (MBP3) is a voluntary, pollution prevention program open to all Michigan businesses, regardless of size. The program was created by Michigan businesses, trade associations, and the DEQ, as a means to publicly recognize Michigan businesses that commit to and undertake P2 activities at their facilities.

To participate in the MBP3, businesses must adopt a P2 policy, identify and commit to specific P2 goals, and provide an annual summary of their progress toward those goals. MBP3 partners are encouraged to share technological success stories on their P2 activities through developing case studies with the assistance of the DEQ. In addition, facilities that participate in the MBP3 meet the "P2 Program" criterion established under the Clean Corporate Citizen (C3) program.

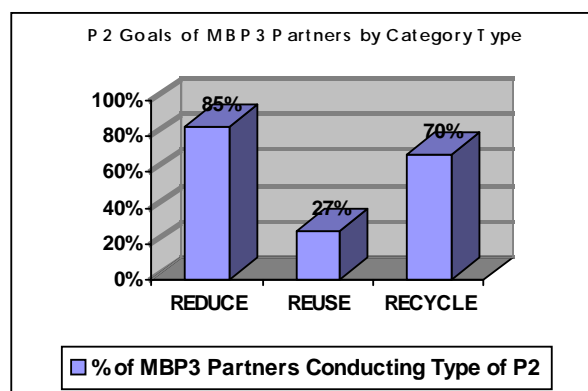
The MBP3 continues to attract a diverse range of businesses, associations, and municipal organizations as the second full year of registration comes to a close. Noteworthy new partners include the first wastewater treatment facility, the first drycleaner, the first farming operation, and the first marina.

Currently, there are 98 registered partners, 60 of which had reportable P2 goals in 1998. Each of these 60 partners submitted annual reports summarizing achievements for 1998 and establishing new or continuing goals for 1999. Most of the remaining partners have submitted P2 goals for 1999. Partners who joined recently will be submitting their goals for calendar year 2000.

This year, a survey was conducted of existing partners. Results indicate that program satisfaction is high. As a result, partners indicated a willingness to accept a uniform reporting process to allow EAD to compile program-wide data. Plans are underway to enhance sample reports as well as to strongly encourage partners to use the recommended report format. This will increase uniformity in reporting partners' achievements on their P2 goals.

MBP3 Partner Goals

The following graph displays the number of MBP3 partners (as a percentage of total partners)* engaged in the three major forms of P2 categories: reduce, reuse, and recycle.



¹Note: partners may have chosen goals representing all three categories.

Persons interested in learning more about the MBP3 should access the MBP3 web site at www.deq.state.mi.us/ead/p2sect/mbp3/.

¹MBP3 companies have established impressive pollution prevention goals, which include reductions in air emissions, toxic substances, and solid waste. According to the 1999 MBP3 Annual Report, of the 89 MBP3 partners who have submitted their P2 goals, 85 percent committed to reduce, 27 percent committed to reuse, and 70 percent committed to recycle at their businesses. Many partners committed to incorporate all three methods of pollution prevention into their operations.

Michigan Great Printers Project



The Michigan Great Printers Project (MI-GPP) is a partnership between the Michigan Environmental Council, Michigan Department of Environmental Quality, and the printing industry to promote pollution prevention as a standard practice in the Michigan lithographic printing industry. The MI-GPP is a voluntary program that welcomes printers who are committed to minimizing their industry's impact on the environment and human health, while at the same time maintaining the highest quality printing standards. Through the project, printers, print buyers, suppliers, regulatory agencies, and technical assistance providers work to create a cooperative business environment that is both economically sound and conducive to pollution prevention. Since the MI-GPP's formal announcement to printers in September 1996, over 100 Michigan printers have registered as Great Printers.

There are also over 20 Great Printer Partners who have joined the project within Michigan. These partners are print suppliers and customers who have made a commitment to work with printers on providing environmentally sound products, sharing information regarding the MI-GPP to the public, and to exclusively patronize Great Printers. Two Michigan counties have resolutions either encouraging support for county Great Printers or making it mandatory for county government to use only Great Printers. Great Print Buyers' commitment to the MI-GPP has helped create a market incentive for other printers to join the project. These "Committed Great Print Buyers" influence printing processes by requesting environmentally sound printing and by supporting Great Printers with their print jobs.

During the past fiscal year the MI-GPP:

- Increased participation from 102 to 128 Great Printers;
- Developed and disseminated the first MI-GPP Annual Report highlighting the pollution prevention accomplishments achieved by Michigan Great Printers;
- Developed and disseminated publications to market the project and provide technical information to registered Great Printers;
- Developed a case study highlighting cost-effective, pollution prevention activities at a Great Printing shop. Additional case studies will be developed in fiscal year 2000 as a result of a U.S. EPA Pollution Prevention Incentives for States grant;
- Provided five waste assessments through the Retired Engineers Technical Assistance Program (RETAP);
- Began working with other State of Michigan departments to inform individuals about the MI-GPP; and
- Received appreciation calls from Great Printers because they had obtained print jobs due to their MI-GPP membership.

The MI-GPP has registered over 125 Michigan printers who have committed to a variety of pollution prevention practices eliminating plates, reducing waste paper production, reusing inks, and recycling developer.

www.deq.state.mi.us/ead/p2sect/migpp



Michigan Pulp and Paper Pollution Prevention Program



The Michigan Pulp and Paper Pollution Prevention Program (P5) is a voluntary program, designed to encourage pollution prevention activities at pulp and paper mills in Michigan. The paper industry is critical to Michigan's economy, contributing to a value added of over \$2 billion a year. The overall goal of the P5 is environmental improvement in concert with continued economic growth and security.

The P5 is a partnership between the EAD and the Michigan Pulp and Paper Environmental Council, with participation open to all paper mills in the state. Each member must meet the P5 requirements of:

- 1) having a written commitment o the program in writing;
- 2) having a written pollution prevention (P2) policy;
- 3) establishing specific measurable P2 goals; and
- 4) recording and reporting on goal progress.

Since its inception in 1996, fifteen member mills, which represent 75 percent of the total paper production in the state, have committed to significant pollution reduction goals for 1997, 1998, 1999, and beyond.

The Third Annual Report of the P5 will be published in November, 1999. The report summarizes the annual and long-term goals adopted collectively by the participating companies. It contains data on the pollution prevention accomplishments achieved in 1998 and commitments made for 1999. When published, this report will be available on the P5 home page.

1998 P5 Reduction Goals vs. Achievement

Material	Goal	Achievement
methanol	13 tons	42.5 tons
volatile organic compounds	12 tons	155 tons
water use	105 tons	160 tons
solids (TSS) loading	1,075 tons	4,469 tons
chlorine use	6 tons	33.5 tons
zinc in sludge	0.5 tons	1 ton
PCB transformers	3 units	12 units
beneficial paper sludge use	8,500 tons	24,282 tons

In addition to the quantifiable goals, the P5 mills have committed to qualitative P2 goals, including:

- Improved energy use;
- Odor source identification and reduction;

1999 Annual P5 Goal Commitments

Material	Reduction Goals
isopropanol emissions	1 ton
water use/wastewater discharge	600 Mgal
sewer losses (TSS and liquor)	1,879 Mgal
nutrient discharge	7.4 tons
chlorine use	1.5 tons
phosphoric acid use	0.75 tons
reduction of aluminum in sludge	0.5 units
sludge utilization	15,900 tons

- Enhanced environmental training;
- Boiler efficiency operation and monitoring improvements; and
- Replacement of chlorofluorocarbons in air conditioner and refrigeration units.

www.deq.state.mi.us/ead/p2sect/p5

The Michigan Turfgrass Environmental Stewardship Program (MTESP)



The Michigan Turfgrass Environmental Stewardship Program (MTESP) is proving to be a powerful tool to increase voluntary compliance and protect natural resources on golf courses throughout the state. The program is only in its second year and already has 120 of Michigan's 900 courses participating.

The MTESP represents a unique partnership between Michigan State University, the turfgrass industry, environmental advocacy groups, the Michigan Department of Environmental Quality, and the Michigan Department of Agriculture.

A sample of some of the accomplishments over the last year include:

- Four MTESP workshops have been held in different regions of the state and several hundred golf course superintendents have attended as a first step in the program. The MTESP workshops have provided a unique opportunity for stakeholders to meet and discuss specific laws, regulations, and best management practices for golf courses. As a result, advancements have been made in pesticide and fertilizer handling, storage and application, fuel storage, and wellhead protection.
- Twenty-eight of the 120 courses have completed the second and third steps in the program including a self-assessment and site visit. At the site visit, the turf stewardship team walks the property and establishes a three-year environmental action plan.
- Eighteen of the 28 courses have met additional requirements and are completely certified in the program. These courses are in compliance with all major rules and regulations outlined in the program, have

adequately protected wellheads on the property, and do not have any direct discharges to water resources.

- A ten minute MTESP video and tabletop display have been produced.
- An MTESP web site has been created.

Courses choosing to participate in the program are gaining recognition for their proactive efforts. At a press conference held August 11, 1999 at Egypt Valley Country Club, Governor John Engler commended Egypt Valley staff and program participants throughout the state for their environmental leadership. Recognition is extremely important due to steady growth in the industry and the need to promote sound environmental practices. Michigan has more golf courses per capita than any other state and ranks first in the country in new course construction.

Program highlights have also been presented at events such as the Regional Pollution Prevention Roundtable held August 11-12, 1999 in Traverse City, Michigan. Several additional educational tours have been held at various golf courses throughout the state to bring state district staff, regional environmental groups, university staff, and turfgrass managers together to discuss compliance and pollution prevention issues.

The scope of the program will be expanded in 2000 and will include management systems designed to maximize buffers along waterways and enhance wildlife habitat. The Michigan Department of Natural Resources will be joining the effort for this component. The existing pollution prevention section will also be expanded to include information on waste management for shop areas, equipment washing stations and emergency response. Four additional workshops are scheduled for different regions of the state and will be held in December 1999, January 2000, February 2000, and March 2000.

www.msue.msu.edu/stewardship

P2 Technical Assistance Providers Network (P2-TAPN)



The P2-TAPN is a network of individuals and organizations that offer P2 information and technical assistance in the state of Michigan. The goal of the network is to strengthen the delivery of P2 services in the state by providing a communication link among members, and an easy to use access point for businesses and others to learn about and contact member P2 providers for assistance.

In 1999, the P2-TAPN successfully achieved the primary objectives identified for strengthening the delivery of pollution prevention services in Michigan:

- A searchable database of nearly 90 nonprofit P2 technical assistance providers was developed that describes in detail their services, where these services are provided, and each member's contact information. The database additionally allows the membership to identify and address gaps in services.
- A P2-TAPN web site that includes the searchable database, hotlinks, and information about the network was created (www.mmtc.org/p2-tapn/). The web site allows both members and the business community to easily learn about the P2 services provided by the membership and serves as a readily available tool for obtaining contact information. Publications developed by member organizations and announcements regarding their upcoming workshops, demonstrations, and conferences are also provided on the web site.
- Network members met periodically to exchange information on their P2 services and experiences. Through formal presentations and exhibits, members learn of other member organization services,

new P2 technologies, and recent developments in the P2 arena. Open discussions on improving the network and strengthening the delivery of P2 services in the state are critical elements of the meetings.

- Active marketing of both the P2-TAPN network and the services offered by the membership was conducted through workshop events, articles in P2 publications, and the EAD web site.

In the upcoming year, the P2-TAPN will research the P2 technical assistance needs of the Michigan business community to better direct and focus the P2 services provided by its members. Efforts to expand the membership, refine the web site, and improve marketing will be undertaken to insure the network remains a valuable P2 resource to the business community for years to come.

www.mmtc.org/p2-tapn/

APPENDIX A: List of Partners and Stakeholders

The Michigan Department of Environmental Quality, Environmental Assistance Division, would like to thank all the organizations and individuals who have assisted in the development and implementation of pollution prevention activities and initiatives during the fiscal year. Every attempt was made to include all participants. We apologize if we have inadvertently omitted any name.

PARTNERS

Agricultural Pollution Prevention (AgP2) Project

Innovative Farmers of Huron County
 Innovative Farmers of South-Central Michigan
 Michigan Agriculture Stewardship Association (MASA)
 Michigan Association of Conservation Districts (MACD)
 Michigan Cattlemen's Association
 Michigan Corn Growers Association
 Michigan Department of Agriculture
 Michigan Farm Bureau
 Michigan Integrated Food & Farming Systems (MIFFS)
 Michigan Land Use Institute
 Michigan United Conservation Clubs
 Michigan Pork Producers Association
 Michigan Potato Industry Commission
 MSU Extension
 Saginaw Bay Watershed Initiative Network (WIN)
 USDA Natural Resources Conservation Service and many independent farmers

Clean Corporate Citizen (C3) DESIGNEES

Baker Furniture, Holland (2nd year)
 Consumers Energy's J.R. Whiting Electric Generating Plant, Erie (2nd year)
 Consumers Energy's Parnell Road Complex, Jackson (1st year)
 DaimlerChrysler Sterling Heights Assembly Plant (3rd year)
 Delphi-E, Grand Rapids (3rd year)

Denso Manufacturing, Battle Creek (1st year)
 DeWitt Barrels, Inc., Grand Rapids (1st year)
 DuPont, Mt. Clemens (1st year)
 Ford Motor Company, Van Dyke Plant, Warren (3rd year)
 Knoll Incorporated, Grand Rapids (2nd year)
 Smurfit-Stone Container, Ontonagon (2nd year)
 TAC Manufacturing, Jackson (1st year)
 Visteon Automotive Systems Sheldon Road, Plymouth (1st year)
 Wisconsin Electric Presque Isle Plant, Marquette (2nd year)

Clean Corporate Citizen (C3) APPLICANTS IN PROCESS

Ford Motor Company, Automatic Transmission New Product Center, Livonia
 Ford Motor Company, Romeo Engine Plant
 Ford Motor Company, Visteon Automotive Systems Utica Plant
 March Coatings, Inc., Brighton
 MichCon's Alpena Compressor Station, Harrison
 NorthStar Print Group, Norway
 SERMAcoat, L.L.C., Brighton
 T.E.S. Filer City Station power generating facility

Department of Defense Partners

Air Guard Base, Battle Creek
 Air Guard Base, Selfridge
 Air Guard Combat Readiness Training Center, Alpena
 Defense Logistics Information Services, Battle Creek

Defense Reutilization and Marketing Services,
Battle Creek
Defense Reutilization and Marketing
Operations, Selfridge
Detroit Arsenal
EPA Region 5
Michigan Army National Guard (Department of
Military Affairs)
Tank Automotive Research Development and
Engineering Center, Detroit
U.S. Army Northern Regional Environmental
Center
U.S. Army Reserves
U.S. Navy Reserves

Green Lights Program

State of Michigan Agencies:

Agriculture
Attorney General
Civil Rights
Civil Service
Community Health
Consumer and Industry Services
Corrections
Education
Environmental Quality
Executive Office
Family Independence Agency
Lottery
Management and Budget
Michigan House of Representatives
Michigan Jobs Commission
Michigan Senate
Military and Veterans Affairs
Natural Resources
State
State Police
Transportation
Treasury

Mercury Pollution Prevention (P2) Initiatives Partners

Detroit Water and Sewerage Department
Detroiter's Working for Environmental Justice
Ecology Center
Health Care Without Harm
Honeywell Corp.
Hospitals for a Healthy Environment (H2E)
Michigan Dental Association
Michigan Department of Agriculture
Michigan Department of Environmental
Quality:
-Air Quality Division
-Environmental Assistance Division
-Office of the Great Lakes
-Waste Management Division
-Surface Water Quality Division
Michigan Groundwater Stewardship Program
Michigan Health and Hospital Association
Michigan Mercury Pollution Prevention (M2P2)
Task Force
Michigan Milk Producers Assn.
Michigan State University Cooperative
Extension Service
Michigan Water Environment Association
Marquette Area Wastewater Treatment Facility
National Wildlife Federation
National Rifle Association
University of Michigan
U.S. EPA
Wayne County Department of Public Works

Michigan Automotive Project Participants

DaimlerChrysler Corporation
Ford Motor Company
General Motors Corporation

Michigan Business Pollution Prevention Program (MBP3) Partners (as of 9/99)

Aeroquip Corporation
 Alpha Plastics, Inc.
 American Bumper and Manufacturing Co.
 American Electric Power-Nuclear Generation
 Amway Corporation
 ANR Pipeline Company
 Associated Petroleum Industries of Michigan
 AutoAlliance International, Inc.
 Baker Furniture
 BASF Corporation, Wyandotte Site
 Bear Truss Company
 Belle Maer Harbor
 Betz Industries
 BP Amoco Company
 Brennan Marine Sales
 Brownrigg Companies, Ltd.
 Capital City Associates
 Capitol Group Governmental Consultants
 Chem Technologies, Inc.
 City of Wyoming – Clean Water Plant
 Coldwater Board of Public Utilities
 Colonial Press, Inc.
 Consumers Energy – Adrian Service Center
 Consumers Energy – BC Cobb Plant
 Consumers Energy – JH Campbell Complex
 Consumers Energy – JR Whiting Plant
 Consumers Energy – Parnall Road Office Complex
 DENSO Manufacturing Michigan, Inc.
 Detroit Edison Company
 DeWitt Barrels
 Donnelly Corporation
 Dow Corning Midland Plant
 DuPont Automotive, Mt. Clemens Site
 Eagle Ottawa – Rochester Hills, Ltd.
 Eagle Ottawa Leather Company
 East Jordan Iron Works
 Eco Waste Solutions, LLC
 Electrical Design and Control
 Elf Atochem North America, Inc.
 Envirollogic Technologies, Inc.
 ESCO Company Limited Partnership

Ford Motor Company – Automatic Transmission
 Foundry Association of Michigan
 Four Winns, Inc.
 General Motors Powertrain-Saginaw Malleable Plant
 General Motors Pontiac East Assembly
 General Oil Company, Inc.
 Great Lakes Gas Transmission Company
 Haworth, Inc.
 Hazekamp Meats
 Hemlock Semiconductor
 Herman Miller, Inc.
 Huron, Inc.
 Inland Waters Pollution Control, Inc.
 International Foam and Trim
 Irwin Seating Company
 Jan's Professional Drycleaners
 Knoll Inc.
 Magni Industries, Inc.
 March Coatings, Inc.
 Marelco Power Systems, Inc.
 Marine Pollution Control Corporation
 Mark IV Automotive
 Mayco Plastics, Inc.
 McCormick Enterprises, Inc.
 Michigan Boating Industries Association
 Michigan Chemical Council
 Michigan Coalition for Clean Water
 Michigan Consolidated Gas Company
 Michigan Institute of Laundering and Drycleaning
 Michigan Seat Company
 Mid-West Instrument
 MWP Inc. – Pleuco Technologies Division
 Parke-Davis
 Pharmacia & Upjohn, Inc.
 Pioneer Foundry Company, Inc.
 RMT
 Ronningen Research & Development Company
 Sackner Products
 SERMAcoat, L.L.C.
 Siemens Automotive Corporation
 Solutia, Inc (Monsanto)
 Sparrow Health System
 SQS, Inc.
 Steelcase, Inc.

Sunshine Prairie Farm
 T.E.S. Filer City Station
 TAC Manufacturing , Inc.
 Taplin Environmental Contracting Corporation
 The Traverse Group
 TriMedia Consultants
 United States Postal Service, Lansing Branch
 Universal Coating, Inc.
 Visteon Automotive Systems – Sheldon Road Plant
 Wacker Silicones Corporation
 Wisconsin Electric Power Company - Presque Isle Plant
 Yamaha Musical Products

Michigan Business Pollution Prevention Program (MBP3) Technical, Marketing and Communication Work Group

The MBP3 is guided by its Technical, Marketing, and Communications Work Group that acts as the principal steering committee for the program. Fourteen members from various businesses and associations with expertise in pollution prevention, participate in this work group. The following individuals comprise the MBP3 work group:

Mr. Paul Schultz, American Electric Power Company
 Ms. Sandy Brewer, General Motors Corporation
 Ms. Genise Smith-Watkins, Michigan Chemical Council
 Mr. Robert Smith, Wacker Silicones
 Ms. Susan Shedore, Pharmacia and Upjohn
 Mr. Barry Cargill, Small Business Association of Michigan
 Mr. Ron Vriesman, Dell Engineering, Inc.
 Mr. David Woltz, WES Corporation
 Ms. Merry Bering, Michigan Institute of Laundering and Drycleaning
 Mr. Willie Beattie, Herman Miller, Inc.
 Mr. Doug Cripps, Consumers Energy
 Mr. Doug Orf, DaimlerChrysler Corporation
 Ms. Sue Rokosz, Ford Motor Company
 Mr. Patrick Zombo, Consumers Energy

Michigan Department of Environmental Quality/Local Health and Environmental Departments P2 Partnership

Michigan Association of Local Environmental Health Administrators
 Michigan Association of Local Public Health
 Michigan's County and District Health and Environmental Departments

Michigan Great Printers Project

A & E Printers
 Action Printing
 Adair Printing
 Allegra Print & Imaging (5 locations)
 Alpha Graphics
 American Speedy Printing, Lake Orion
 Amerikal, Inc.
 Amway Corporation
 Aquila Printing
 Arrow Swift
 ASAP Printing
 Braun-Brunfield, Inc.
 BRD Printing, Inc.
 Bryant Printing
 Business Cards Plus
 Business Imaging Group
 Champion Printing and Advertising
 Clarke American
 Classic Printing, Inc.
 Colonial Press, Inc.
 Copy Options, Inc.
 Copy Quick
 Corona Graphics, Inc.
 CPI Graphics
 Craft Press Printing
 Danielson Color Print
 Delta Printing Company, Inc.
 Dickinson Press
 Double Day Bros. & Company
 Eagle Printing
 Earle Press Printing
 Econo Print, Inc.
 Economy Printing Company

Edwards Brothers, Inc.
 Etheridge Company, The
 Executive Printing Services
 Falcon Printing
 First Impression Printers
 Flashes Publishers, Inc.
 Flint Ink, Inc.
 F.P. Horak Company, The
 Fullserv, Inc.
 G-Graphics
 Gardner Printing
 Goetzcraft Printers
 Grandville Printing
 Graphics 3, Inc.
 Hatteras Printing
 Holland Sentinel, The
 Howard Printing
 Huron Valley Printing & Imaging
 Ideal Printing Company
 Image Masters Precision Printing
 Impressions Printing Inc.
 Inco Graphics
 Ingham County Printing Office
 International Minute Press, Farmington Hills
 International Minute Press, Ann Arbor
 International Minute Press, Portage
 IPC Communications Services
 Jiffy Print, Inc.
 Jiffy Prints
 Job Shop Printers
 John Henry Company, The
 Keystone Printing, Inc.
 Kimcraft Printers
 Kinko's (4 locations)
 Lake Superior Press, Inc.
 Lansing Printing Company
 Lawson Printers, Inc.
 Litho-Tech Printing
 Logan Brothers
 LTI Printing
 Macomb Printing
 Malloy Lithography Inc.
 Mason Graphics
 McGrath-DeFoe Printing
 McKay Press
 McNaughton & Gunn, Inc.
 Michigan Education Data Network Association

MICR Graphics/Billy the Printer
 Millbrook Printing
 Mitchell Graphics
 Myers Printing, Inc.
 Nelson Printing Enterprises
 North Star Print Group
 Paper Image Printing Center
 Parkman Printing, Inc.
 Petoskey News-Review
 Portage Printing
 Print Haus, Inc., The
 Print King, Inc.
 Print Shop, The
 Printery, The
 Printing Arts Company
 Printwell
 Progressive Graphics
 Reynolds & Reynolds
 Rosers Printing, Inc.
 Saginaw Bay Watershed Initiative
 Seeley's Printing Service
 Shelby Ink
 Sir Speedy
 Sir Speedy Printing
 Spartan Printing
 Standard Printing & Office Supply
 State of Michigan, Print & Graphic Services
 Sterling Press
 Superior Business Solutions
 Superior Color Graphics
 T.C. Advertising - Printco Group
 Target Information Management
 Tweddle Litho Company
 University Lithoprinters
 Utley Brothers, Inc.
 Valassis Comm., Inc.
 Webco Press - Mass Media
 West Colony Printing
 Wood Press Company

Michigan Material Exchange Services

Indiana Materials Exchange
 Millennium Exchange, Ltd., The
 Ohio's Material Exchange
 Recycler's World

Michigan Turfgrass Environmental Stewardship Program

List of courses that have completed a site visit.

Bedford Valley G.C.
 Canadian Lakes
 Crystal Downs C.C.
 Egypt Valley C.C.
 Elk Ridge G.C.
 Forest Lake C.C.
 Fox Hills G.C.
 Garland Resort (The)
 Grosbeck G.C.
 Gull Lake View G.C.
 Gull Lake View Stonehedge
 Huron Meadows Metropark G.C.
 Hudson Mills Metropark G.C.
 Indian Springs Metropark G.C.
 Kalamazoo C.C.
 Kensington Metropark G.C.
 Lake Erie Metropark G.C.
 Links at Whitmore Lake (The)
 Lower Huron Metropark G.C.
 Marysville G.C.
 Metro Beach Metropark G.C.
 Oakland Hills C.C.
 Rock at Woodmoor (The)
 Shanty Creek Resort
 Southgate G.C.
 Walnut Hills C.C.
 Whispering Pines G.C.
 Willow Metropark G.C.

Pulp and Paper Pollution Prevention Program (P5)

ABTco, Inc.
 ACX Technologies, Inc.
 Champion International Corporation
 Consolidated Papers, Inc. Niagara Division
 E.B. Eddy Paper
 Fletcher Paper
 Georgia-Pacific Corporation
 Manistique Papers

Mead Publishing Paper Division
 Menasha Corporation, Paperboard Division
 Menominee Paper Company
 Michigan Pulp and Paper Environmental Council
 National Council of the Paper Industry for Air and Stream Improvement
 Packaging Corporation of America
 Rock-Tenn Company
 SAPPI Fine Paper of North America
 Smurfit-Stone Container Corporation
 Tenneco Packaging

Retired Engineer Technical Assistance Program (RETAP) Expansion Stakeholder Work Group

Alliance of Automotive Service Providers of Michigan
 Alpha Plastics, Inc.
 American Consulting Engineers Council/ Michigan
 BLDI Environmental and Safety Management Ecology Center of Ann Arbor
 Grand Valley State University, Water Resources Institute
 Ingham County Health Department
 Kalamazoo County, Human Services Department
 Michigan Chamber of Commerce
 Michigan Economic Development Corporation
 Michigan Environmental Council
 Michigan Farm Bureau
 Michigan Institute of Laundering and Drycleaning
 Michigan Manufacturers Association
 Michigan Manufacturing Technology Center
 Michigan State University, Department of Resource Development
 RETAP Assessors
 Small Business Association of Michigan
 University of Michigan, National Center for Sustainable Development
 University of Michigan-Flint, Department of Earth and Resource Sciences

W.E.S. Corporation
 Waste Reduction and Technology Transfer
 Foundation
 Wayne County, Department of Environment

Small Business Loan Program

Lending Institution Subcommittee

Alpha Plastics, Inc., Jim Gower
 Bank of Alma, James E. Wheeler, II
 Michigan Jobs Commission, Larry Schrauben
 Michigan Department of Consumer & Industry
 Services, Donald Mann
 Michigan Tube, Mark Pajakowski
 Small Business Association of Michigan, Mark
 Clevey
 W.E.S. Corporation, David Woltz

Marketing Subcommittee

Alpha Plastics, Inc., Jim Gower and Kenneth
 Sangster
 BLDI Environmental and Safety Management,
 Bill Stough
 Kalamazoo County Human Services
 Department, Connie Selles
 Michigan Department of Consumer & Industry
 Services, Donald Mann
 Michigan Institute of Laundering &
 Drycleaning, Merry Bering
 Michigan Tube, Mark Pajakowski
 Right Place Program (The), Michelle Sayers
 Syburn, Kahn & Ginn, Beth Gotthelf
 Thomas Borton Associates, Tom Borton

Technology Assistance Providers Network (TAPN) Steering Committee

Kalamazoo County, Business Environmental
 Education & Assistance Program
 MERRA
 Michigan Economic Development Corporation
 Michigan Manufacturing Technology Center
 National Center for Manufacturing Sciences
 Retired Engineer Technical Assistance Program
 University of Michigan, Industrial Assessment
 Center

WORKSHOP CO-SPONSORS

WASTE REDUCTION '98 – YOU CAN MAKE IT HAPPEN! Workshop Co-sponsors

American Automobile Manufacturers
 Association
 Air & Waste Management Association – East
 Michigan Chapter
 Air & Waste Management Association – Ontario
 Section
 Canadian Centre for Pollution Prevention
 Canadian Vehicle Manufacturers' Association
 City of Detroit - Water & Sewerage Department
 Consumers Energy
 Detroit Edison Company
 Detroit Regional Chamber
 Ingham County Health Department
 Michigan Chemical Council
 Michigan Consolidated Gas Company
 Michigan Department of Consumer and
 Industry Services-Energy Resources Division
 Michigan Manufacturers Association
 Resource Recycling Systems, Inc.
 Small Business Association of Michigan
 Southeast Michigan Council of Governments
 Techna Corporation
 U.S. Postal Service
 Washtenaw Pollution Prevention Coalition
 Wayne County Department of Environment
 Wayne State University - Hazardous Waste
 Management Program

Emergency Planning and Community Right- to-Know (SARA Title III) Tier II Training Co-sponsor

U.S. Environmental Protection Agency, Region 5

EPCRA SECTION 304 & CERCLA SECTION 103 EMERGENCY NOTIFICATION (RELEASE REPORTING) Co-sponsor

U.S. Environmental Protection Agency, Region 5

***Great Lakes Regional Pollution Prevention
Roundtable summer meeting "P2
Partnerships for the Millennium:
Government, Community, Agricultural, and
Industrial" Co-sponsor***

Great Lakes Regional Pollution Prevention
Roundtable

APPENDIX B: List of Publications Related to P2 Revised or Created in Fiscal Year 1999

1998 Pollution Prevention Annual Report

www.deq.state.mi.us/ead/pub/p2/98p2rept.pdf

Aboveground Storage Tank Program - An Overview

www.deq.state.mi.us/ead/pub/tas/astbroch.pdf

Air Quality Division Guide

www.deq.state.mi.us/ead/pub/aqdguide.pdf

Amazing Graze Acres: Kalkaska, Michigan

www.deq.state.mi.us/ead/pub/casestudy/amazgraz.pdf

Antifreeze

www.deq.state.mi.us/ead/pub/tas/antifrez.pdf

Bohning Company, Ltd.: A RETAP Success Story

www.deq.state.mi.us/ead/pub/casestudy/bohning.pdf

Building a Pond in Michigan

www.deq.state.mi.us/ead/pub/tas/pondlwmd.pdf

Clean Corporate Citizen Application Form

ftp.deq.state.mi.us/pub/ead/tasect/c3applic.doc

Clean Corporate Citizen Renewal Form

www.deq.state.mi.us/ead/tasect/c3/eqp3471.pdf

Community Environmental Awareness Project Brochure

www.deq.state.mi.us/ead/ceap/ceapbroc.pdf

Community Environmental Awareness Project Newsletter

www.deq.state.mi.us/ead/ceap/group/ceapnews.pdf

Community Environmental Awareness Project Profile

www.deq.state.mi.us/ead/ceap/group/ceaprof.pdf

Cross Connections

www.deq.state.mi.us/ead/pub/tas/xconnect.pdf

Eco-Friendly Boating

www.deq.state.mi.us/ead/pub/factsheet/boating.pdf

Electric Lamps

www.deq.state.mi.us/ead/pub/tas/eleclamp.pdf

Electronic Equipment

www.deq.state.mi.us/ead/pub/tas/elecequp.pdf

Environmental Assistance Division Brochure

www.deq.state.mi.us/ead/pub/eadbroch.pdf

Environmental Permits

www.deq.state.mi.us/ead/pub/factsheet/envperms.pdf

Food Industry Pollution Prevention and Waste Reduction

www.deq.state.mi.us/ead/pub/factsheet/foodind.pdf

Guide for Salvage Yard Owners

www.deq.state.mi.us/ead/pub/tas/salvyard.pdf

Guide to DEQ Divisions & Offices

www.deq.state.mi.us/ead/pub/deqguide.pdf

Guide to Environmental Assistance Division

www.deq.state.mi.us/ead/pub/eadguide.pdf

**Hazardous Waste Emergency Information
Posting Form for Small Quantity Generators**

www.deq.state.mi.us/ead/pub/tas/sqgposter.pdf

**Marine Industry Pollution Prevention &
Waste Reduction**

www.deq.state.mi.us/ead/pub/factsheet/marine.pdf

MBP3 1998 Annual Report

www.deq.state.mi.us/ead/p2sect/mbp3/mbp3ar98.pdf

Mercury Alert Bilingual Brochure

www.deq.state.mi.us/ead/pub/p2/hispmmerc3.pdf

Metalworking Operations

www.deq.state.mi.us/ead/pub/tas/metalwrk.pdf

**Michigan Agricultural Pollution Prevention
Directory**

www.deq.state.mi.us/ead/pub/p2/agp2dir.pdf

Michigan Air Use Permit Technical Manual

Order form only: [www.deq.state.mi.us/ead/
pub/caap/airpermit/eqp3563.pdf](http://www.deq.state.mi.us/ead/pub/caap/airpermit/eqp3563.pdf)

**Michigan Great Printers Project, First Progress
Report**

[www.deq.state.mi.us/ead/p2sect/migpp/
anlrpt1.pdf](http://www.deq.state.mi.us/ead/p2sect/migpp/anlrpt1.pdf)

**Michigan Materials Exchange Service Fact
Sheet**

[www.deq.state.mi.us/ead/pub/factsheet/
matexsvc.pdf](http://www.deq.state.mi.us/ead/pub/factsheet/matexsvc.pdf)

**Mitchell Graphics, Inc.: Digital Pre-press
Reduces Waste**

[www.deq.state.mi.us/ead/pub/casestudy/
mitchell.pdf](http://www.deq.state.mi.us/ead/pub/casestudy/mitchell.pdf)

Mobile Power Washing

www.deq.state.mi.us/ead/pub/tas/powrwash.pdf

P2 Week Planner 1999

[www.deq.state.mi.us/ead/p2sect/p2week/
p2wkplanner.html](http://www.deq.state.mi.us/ead/p2sect/p2week/p2wkplanner.html)

**Pollution Prevention Projects and Assistance
Programs**

www.deq.state.mi.us/ead/pub/p2/p2proj.pdf

Pollution Prevention Strategy Fact Sheet

[www.deq.state.mi.us/ead/pub/factsheet/
p2stragy.pdf](http://www.deq.state.mi.us/ead/pub/factsheet/p2stragy.pdf)

**Pollution Prevention: Improve Your Corporate
and Product Image**

[www.deq.state.mi.us/ead/pub/factsheet/
impimage.pdf](http://www.deq.state.mi.us/ead/pub/factsheet/impimage.pdf)

Preventing Groundwater Contamination

[www.deq.state.mi.us/ead/pub/factsheet/
grwtrcon.pdf](http://www.deq.state.mi.us/ead/pub/factsheet/grwtrcon.pdf)

Proposed Small Business P2 Loan Program

www.deq.state.mi.us/ead/p2sect/p2loan/sbp2loanfs.pdf

Recycling Resources

www.deq.state.mi.us/ead/pub/p2/recycres.pdf

Request for Case Study Brochure**Restaurant Pollution Prevention and Waste Reduction Fact Sheet**

www.deq.state.mi.us/ead/pub/factsheet/restp2wr.pdf

Retired Engineer Technical Assistance Program (RETAP)

www.deq.state.mi.us/ead/pub/factsheet/retapfs.pdf

Securing Financial Assistance Through the DWRF Booklet**Tap-in to P2-Tapn**

www.deq.state.mi.us/ead/pub/p2/tapnlite.pdf

TRI Staff Analysis Report

www.deq.state.mi.us/ead/sara/tri97rpt.pdf

TRI Summary Report

www.deq.state.mi.us/ead/sara/97summaryrpt.pdf

Universal Waste

www.deq.state.mi.us/ead/pub/tas/univwast.pdf

Used Oil & Spent Filters

www.deq.state.mi.us/ead/pub/tas/usedoil.pdf

Wetland Protection

www.deq.state.mi.us/ead/pub/tasect/wetland3.pdf

What is an Air Contaminant/Pollution?

www.deq.state.mi.us/ead/pub/factsheet/airconfs.pdf

APPENDIX C: Acronyms Used in This Report

AgP2	Agricultural Pollution Prevention
AHA	American Hospital Association
C3	Clean Corporate Citizen
CEAP	Community Environmental Awareness Project
DEQ	Michigan Department of Environmental Quality
DOD	Department of Defense
EAD	Environmental Assistance Division
EAC	Environmental Assistance Center
GM	General Motors
GPS	Global Positioning Systems
H2E	Hospitals for a Healthy Environment
LHED	Local Public Health Environmental Department
M2P2	Michigan Mercury Pollution Prevention
MAEAP	Michigan Agricultural Environmental Assurance Program
MALPH	Michigan Association for Local Public Health
MBP3	Michigan Business Pollution Prevention Partnership
MDA	Michigan Department of Agriculture
MFP2I	Metal Finishing Pollution Prevention Initiative
MHHA	Michigan Health and Hospital Association
MI-GPP	Michigan Great Printers Project
MOU	Memorandum of Understanding
MTESP	Michigan Turfgrass Environmental Stewardship Program
NREPA	Natural Resources and Environmental Protection Act
OGI	Office of the Great Lakes
P2	Pollution Prevention
P5	Pulp and Paper Pollution Prevention Program
PA	Public Act
PPA	Pollution Prevention Act
RPD	Recycled Products Directory
RETAP	Retired Engineer Technical Assistance Program
RMMD	Recycled Materials Market Directory
RY	Reporting Year(s)
SARA Title III	Superfund Amendments and Reauthorization Act
SEP	Supplemental Environmental Project
SHAP	Chrysler Sterling Heights Assembly Plant
TAPN	Technical Assistance Providers Network
TPRW	Total Production Related Waste
TRI	Toxic Release Inventory
U.S. EPA	United States Environmental Protection Agency
WIN	Saginaw Bay Watershed Initiative Network
WREE	Waste Reduction and Energy Efficiency

APPENDIX D: Pollution Prevention Contact List

<u>PROGRAM</u>	<u>CONTACT</u>	<u>PHONE</u>	<u>E-MAIL</u>
<i>AGRICULTURAL POLLUTION PREVENTION PROJECT</i>	Terri Novak	517-625-4611	novaktl@state.mi.us
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<i>COMMUNITY RIGHT-TO-KNOW</i>	Robert Jackson Ruth Borgelt	517-373-8481 517-373-8481	jacksorc@state.mi.us borgeltr@state.mi.us
<i>CLEAN CORPORATE CITIZEN PROGRAM</i>	William Stone Valerie Haan	517-241-7969 517-241-0231	stonew@state.mi.us haanv@state.mi.us
<i>COMMUNITY ENVIRONMENTAL AWARENESS PROJECT</i>	Robert Jackson	517-373-2731	jacksorc@state.mi.us
<i>ENVIRONMENTAL ASSISTANCE CENTER</i>		800-662-9278	deq-ead-env- assist@state.mi.us
<i>EVENTS AND PRESENTATIONS</i>	Barbara Spitzley	517-373-9283	spitzleb@state.mi.us
<i>FIELD STAFF SERVICES</i>	Marcia Horan	517-373-9122	horanm@state.mi.us
<i>GREEN LIGHTS PROGRAM</i>	James Baker	517-373-2461	bakerjj1@state.mi.us
<i>INTERNET SITES</i>	Darlene Harris	517-373-0318	harrisd@state.mi.us
<i>MATERIALS EXCHANGE</i>	Lucy Doroshko	517-373-1322	doroshkl@state.mi.us
<i>MERCURY REDUCTION INITIATIVE</i>	Steve Kratzer	517-373-0939	kratzers@state.mi.us
<i>MICHIGAN AUTO PROJECT</i>	Anita Singh	517-335-2356	singhani@state.mi.us
<i>MICHIGAN BUSINESS POLLUTION PREVENTION PARTNERSHIP</i>	Steve Kulesia	517-373-6565	kulesias@state.mi.us

MICHIGAN GREAT PRINTERS

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MICHIGAN TURFGRASS**ENVIRONMENTAL STEWARDSHIP**

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Dave Herb	517-241-8176	herbddd@state.mi.us

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	David Herb	517-241-8176	herbdw@state.mi.us

POLLUTION PREVENTION WEEK	Wendy Fitzner	517-373-8798	fitznerw@state.mi.us
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PULP AND PAPER POLLUTION

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RECYCLED MATERIALS MARKET**DIRECTORY, MICHIGAN RECYCLED****PRODUCTS DIRECTORY, AND**

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ASSISTANCE PROGRAM	Julie Feldpausch	517-335-0081	feldpauj@state.mi.us
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SMALL BUSINESS LOAN

PROGRAM	Wendy Fitzner	517-373-8798	fitznerw@state.mi.us
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SPEAKERS BUREAU

Barb Spitzley	517-373-9283	spitzleb@state.mi.us
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SARA TITLE III (EMERGENCY

PLANNING AND COMMUNITY	Robert Jackson	517-373-8481	jacksorc@state.mi.us
RIGHT-TO-KNOW ACT)	Ruth Borgelt	517-373-8481	borgeltr@state.mi.us